ORDER NO. AD9707094C2

Service Manual

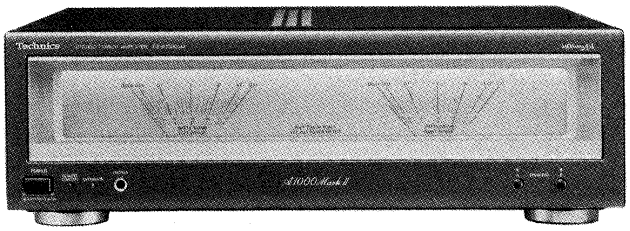
Amplifier

Stereo Power Amplifier

SE-A1000M2

Colour
(K).....Black Type

Areas
(E) ..... Europe.
(EB) ..... Great Britain.
(EG)..... Germany.



Specifications (DIN 45 500)

20 Hz – 20 kHz continuous power output	
both channels driven	2×70 W (8 Ω)
1 kHz continuous power out put	
both channels driven (THD: 1 %)	2×85 W (8 Ω)
	2×120 W (4 Ω)
63 Hz – 12.5 kHz continuous power output	
both channels driven (THD: 0.7 %)	2×80 W (8 Ω)
	2×105 W (4 Ω)
Total harmonic distortion (THD)	
rated power at 20 Hz – 20 kHz	0.015 % (8 Ω)
Intermodulation distortion	
(50 Hz: 7 kHz = 4 : 1, SMPTE)	0.007 % (8 Ω)
Residual hum and noise	0.3 mV
Damping factor	70 (8 Ω)
	35 (4 Ω)
Headphones output level/impedance	540 mV/330 Ω
Load impedance	
A or B, BI-WIRING	4 Ω – 16 Ω
A and B	8 Ω – 16 Ω
Input sensitivity/impedance	
NORMAL, DIRECT	1 V/20 kΩ
	(INPUT LEVEL CONTROL Max.)
S/N (rated power, 4 Ω)	95 dB (110 dB, IHF '66)

Frequency response	
NORMAL	5 Hz – 70 kHz (+0, –3 dB)
	(INPUT LEVEL CONTROL Max.)
	+0 dB, –0.5 dB (20 Hz – 20 kHz)
DIRECT	5 Hz – 70 kHz (+0, –3 dB)
	+0 dB, –0.5 dB (20 Hz – 20 kHz)

■ GENERAL

Power supply	
For (E) and (EG) areas	AC 50 Hz, 230 V
For (EB) area	AC 50 Hz, 230 V – 240 V
Power consumption	280 W
Dimensions (W × H × D)	430×136×344 mm
Weight	9.8 kg

Notes:
1. Specifications are subject to change without notice. Weight and dimensions are approximate.
2. Total harmonic distortion is measured by the digital spectrum analyzer.

⚠WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product.
Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Technics®

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■ Before Repair

(1) Turn off the power supply. Using a 10 Ω, 10 W resistor, connect both ends of power supply capacitors (C701, C702) in order to discharge the voltage.

(2) Before turning the power supply on, after completion of repair, slowly apply the primary voltage by using a power supply voltage controller to make sure that the consumed current at 50 Hz in NO SIGNAL mode should be shown below with respect to supply voltage 230 V/240 V.

Power supply voltage	AC 230 V, 50 Hz	AC 240 V, 50 Hz
Consumed current	160 mA ~ 320 mA	160 ~ 320 mA

■ Protection Circuitry

The protection circuitry may have operated if either of the following conditions is noticed:

- No sound is heard when the power is switched ON.
- Sound stops during a performance.

The function of this circuitry is to prevent circuitry damage if, for example, the positive and negative speaker connection wires are "shorted", or if speaker systems with an impedance less than the indicated rated impedance of this unit are used.

If this occurs, follow the procedure outlined below:

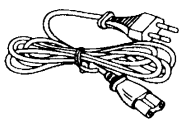
1. Switch OFF the power.
2. Determine the cause of the cause of the problem and correct it.
3. Switch ON the power once again.

Note:

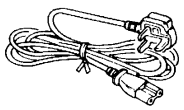
When the protection circuitry functions, the unit will not operate unless the power is first switched OFF and then ON again.

■ Accessories

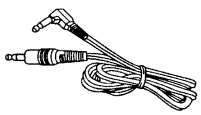
- AC power supply cord
  (E) and (EG) areas : (RJA0019-2K) 1



  (EB) area : (RJA0049-K) 1



- Connection cable for remote control
  (SJP2257T) 1



■ Caution for AC Mains Lead

[for (EB) area code model only]

For your safety, please read the following text carefully.

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.
A 5-ampere fuse is fitted in this plug.
Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 5-ampere and that it is approved by ASTA or BSI to BS1362.
Check for the ASTA mark ⓐ or the BSI mark ⓚ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.
If you lose the fuse cover the plug must not be used until a replacement cover is obtained.
A replacement fuse cover can be purchased from your local dealer.

CAUTION!
IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFETY. THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13-AMPERE SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below.
If in any doubt please consult a qualified electrician.

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

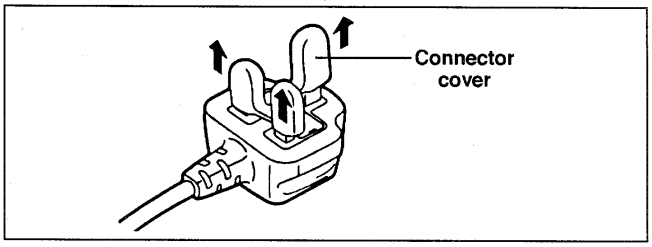
As the colours of the wires in the mains lead of this appliance may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:
The wire which is coloured BLUE must be connected to the terminal in the plug which is marked with the letter N or coloured BLACK.

This apparatus was produced to BS 800.

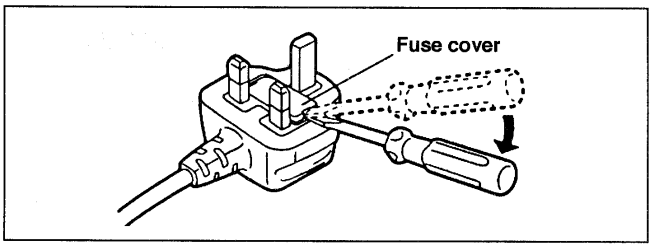
The wire which is coloured BROWN must be connected to the terminal in the plug which is marked with the letter L or coloured RED.

Under no circumstances should either of these wires be connected to the earth terminal of the three pin plug, marked with the letter E or the Earth Symbol ⏚ .

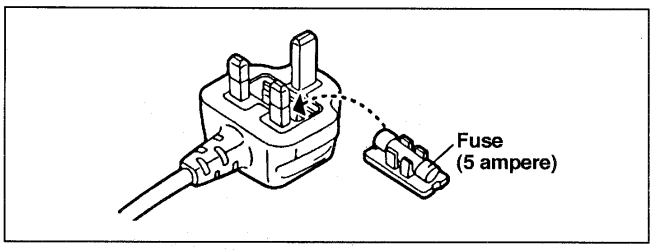
Before use
Removal the connector cover as follows.



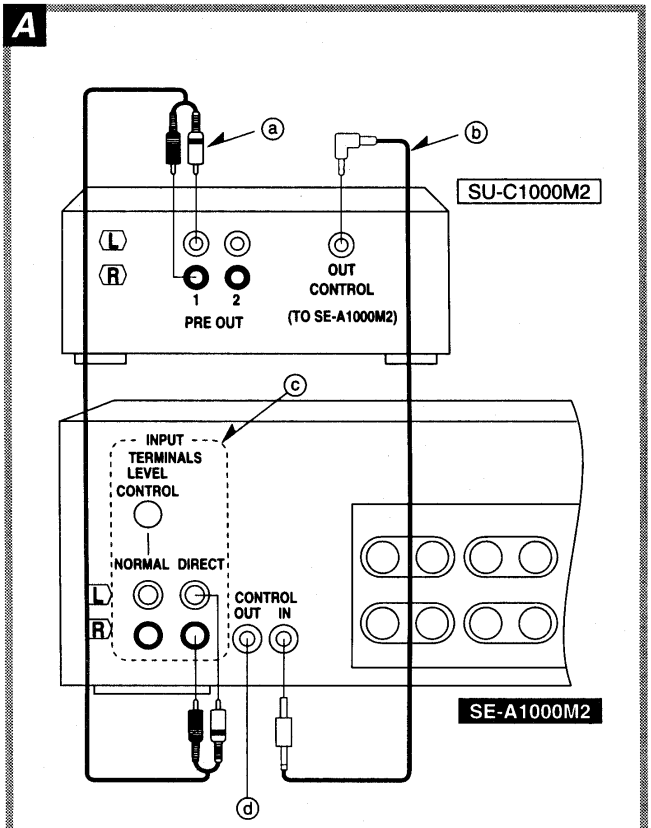
How to replace the fuse
1. Remove the fuse cover with a screwdriver.

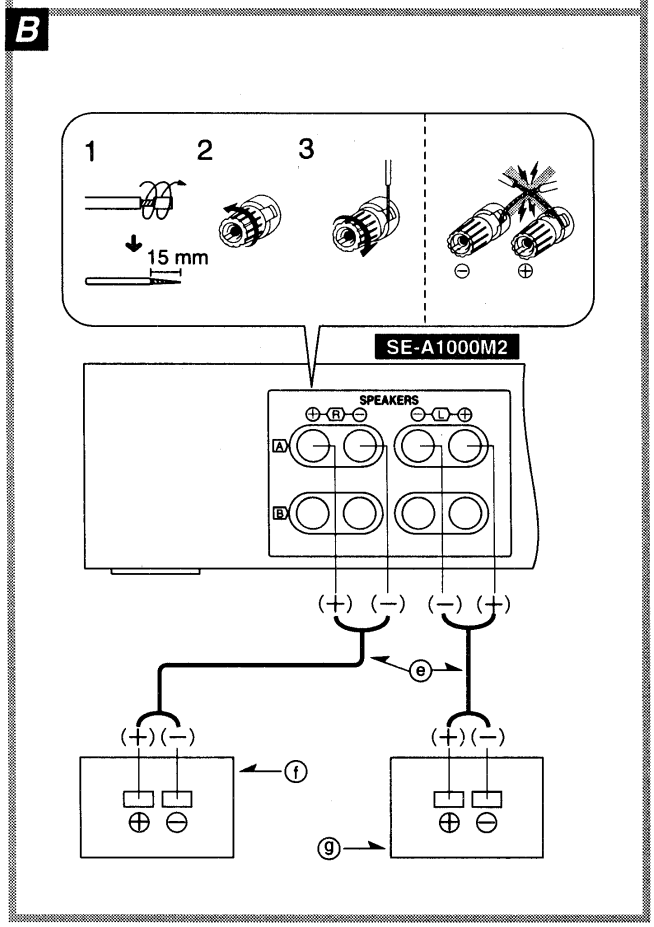


2. Replace the fuse and attach the fuse cover.



■ Connections



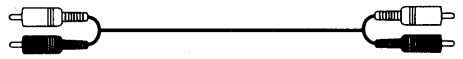


- Make sure that the power supply for all components has been turned off before making any connections.
- To connect equipment, refer to the appropriate operating instructions.

Connecting to a control amplifier (SU-C1000M2) A

ⓐ Stereo connection cable (included with SU-C1000M2)

White (L)
Red (R)



ⓑ Connection cable for remote control (included)

"INPUT" terminals ⓒ

The amplifier has two input systems: NORMAL and DIRECT.
You should use NORMAL input when it is difficult to control volume, for example, when the sound is too loud when you raise volume slightly from the control amplifier. Connect to the NORMAL terminals and set input level from the LEVEL CONTROL knob. Turning to the left lowers input, but normally leave it to "MAX".
When connected to the DIRECT terminals, audio signals do not pass through the level control circuit, so the sound is crisper.

Caution

Do not use the NORMAL and DIRECT input terminals at the same time.

"CONTROL OUT" terminal ⓓ

The CONTROL OUT terminal is for connecting another amplifier in a dual amplifier system.

Connecting the speakers B

ⓔ Speaker cables (not included)
The wires which are connected to the positive (+) terminals of the amplifier should be connected to the positive (+) terminals of the speakers. The negative (–) terminals should be connected in a similar way.
ⓕ Right speaker (not included)
ⓖ Left speaker (not included)

"B" terminals

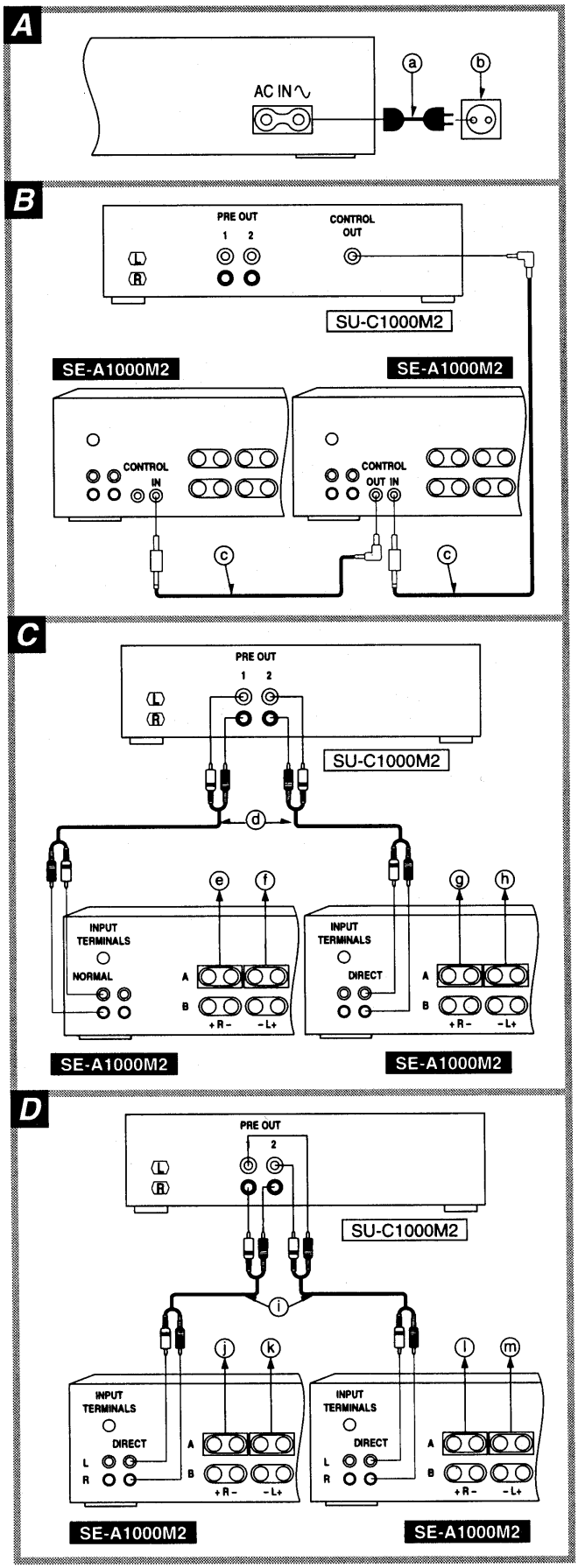
For connection to a second pair of speakers.
If using separate treble and bass speakers, connect one set to the "A" terminals and the other set to the "B" terminals.

Speaker impedance

- When only the "A" or only the "B" terminals are used: 4-16 Ω
- When both the "A" and the "B" terminals are used simultaneously: 8-16 Ω

Caution

To prevent damage to circuitry, never short-circuit the positive (+) and negative (–) speaker wires.

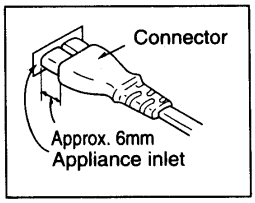


Connecting the power supply A

Connect the power supply only after all other connections have been made.

ⓐ AC power supply cord (included)
ⓑ Household AC outlet

Insertion of Connector
Even when the connector is perfectly inserted, depending on the type of inlet used, the front part of the connector may jut out as shown in the drawing.
However there is no problem using the unit.



For your reference

To connect two power amplifiers

The Technics SU-C1000M2 can be configured in a system with two power amplifiers.

Connect the two power amplifiers to the SU-C1000M2 using connection cables for remote control. B

ⓒ Connection cable for remote control
(included with SE-A1000M2)

Then, connect the stereo connection cables and speaker cables using the following examples as reference.

Example 1: To use one amplifier for the high region and one for the low region C

If the stereo connection cables are connected to the NORMAL terminals, you can adjust speaker characteristics to the listening environment from the LEVEL CONTROL knob.

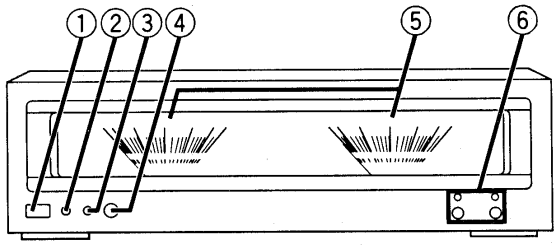
ⓓ Stereo connection cables (not included)
ⓔ To the HF terminal on the right speaker
ⓕ To the HF terminal on the left speaker
ⓖ To the LF terminal on the right speaker
ⓗ To the LF terminal on the left speaker

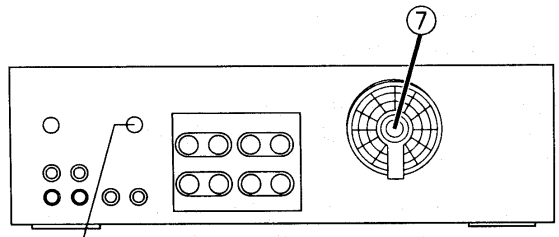
Example 2: To use as left/right monaural amplifiers D

Left and right channel separation will be better and sound orientation improved.

ⓘ Stereo connection cables (not included)
ⓙ To the HF (or LF) terminal on the right speaker
ⓚ To the LF (or HF) terminal on the right speaker
ⓛ To the HF (or LF) terminal on the left speaker
ⓜ To the LF (or HF) terminal on the left speaker

■ Name of Parts





POWER METER LIGHT

① Power " STANDBY ⏻ ON" switch (POWER, STANDBY ⏻ ON)
Press to switch the unit from on to standby mode or vice versa. In standby mode, the unit is still consuming a small amount of power.

② Remote standby indicator (REMOTE STANDBY)
When the unit is connected to the AC mains supply, this indicator lights up in standby mode and goes out when the unit is turned on.

③ Operation indicator (OPERATION)
This indicator illuminates when the power amplifier is in the normal operating condition.
If the (+) and (–) wires of the speaker cables are shorted, or if a circuit abnormality such as DC voltage in the power output to the speakers is detected, the protection circuit will operate and the "OPERATION" indicator will turn off.

④ Headphones jack (PHONES)

⑤ Power meters
Indicate the output (watts) of this unit.
When speakers having an impedance of 8 Ω are connected, the output level will be as indicated. However, if the speaker impedance is 16 Ω, the output level will be one-half the indicated value, and if the impedance is 4 Ω, the output level will be double the indicated value.

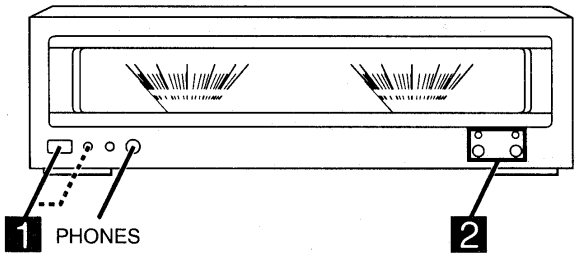
$$\text{Actual output} = \text{meter indication} \times \frac{8\ (\Omega)}{\text{impedance of the speakers } (\Omega)}$$

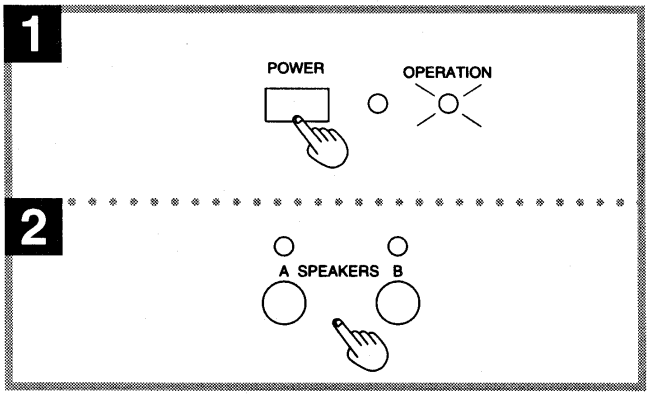
The power meter lights are turned on by pressing the POWER METER LIGHT button on the amplifier rear.

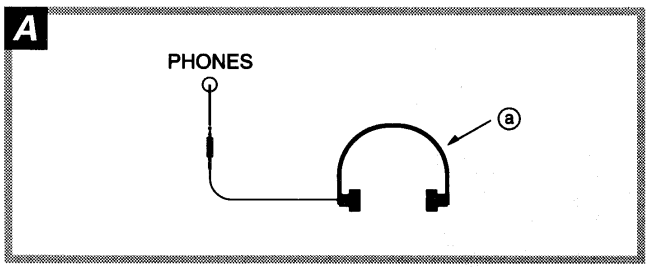
⑥ Speaker select buttons/indicators (SPEAKERS)

⑦ Cooling fan
The cooling fan operates at high power output levels only.

■ Operations







Before operating this unit

1. Set the volume on the control amplifier to the minimum position.
2. Switch on the power of the control amplifier.

1 Press POWER to switch on the power.

The "OPERATION" indicator will illuminate after approximately 4 seconds.

[If the SU-C1000M2 control amplifier is connected to this unit]
Once this unit has been turned on, both amplifiers can then be turned on or to the standby mode using POWER on the control amplifier.

2 Press A and/or B to select the speaker system(s) to be used.

The corresponding indicator(s) will illuminate.

3 Operate the tape deck, CD player, or other equipment and adjust the volume on the control amplifier.

After listening is finished

1. Decrease the volume at the control amplifier.
2. [When connected to the SU-C1000M2]
   Press POWER on the SU-C1000M2 to switch both amplifiers to the standby condition.
   [When connected to a different control amplifier]
   First switch this unit to the standby position, and then do the same for the control amplifier.

To listen through headphones A

ⓐ Headphones (not included)

Decrease the volume at the control amplifier, and then connect the headphones.
Plug type: 6.3 mm stereo

If sound from speakers is not wanted, press SPEAKERS (A) and/or (B) to turn off the speaker indicators.

Note

Avoid listening for prolonged periods of time to prevent hearing damage.

■ Operation Check and Main Component Replacement Procedures

NOTE

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Refer the parts No. on the page of "Main Component Replacement Procedures", if necessary.**

• Contents

•Checking Procedure for each P.C.B. Page.

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•Main Component Replacement Procedures

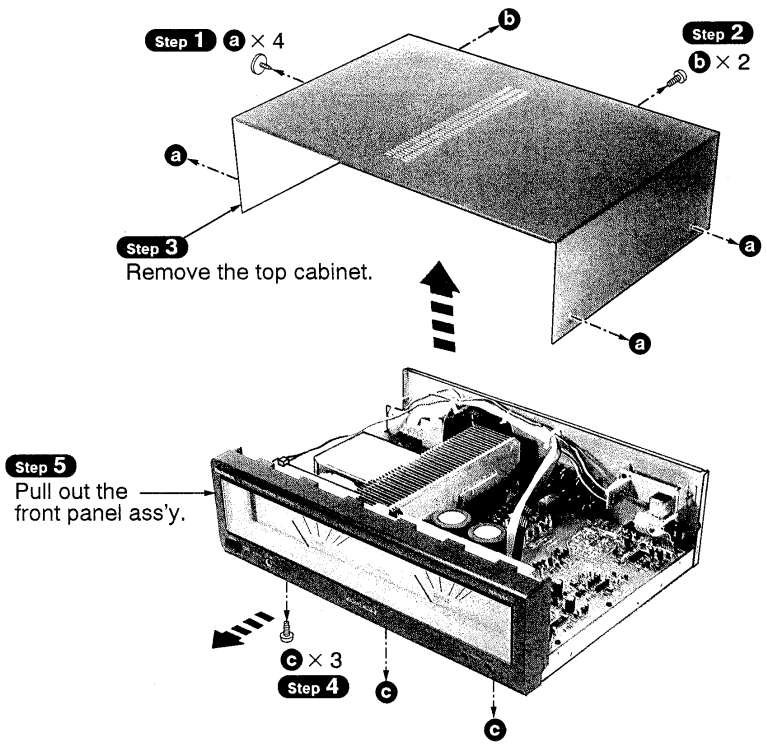
1.Replacement for the meter ass'y. ..... 10.

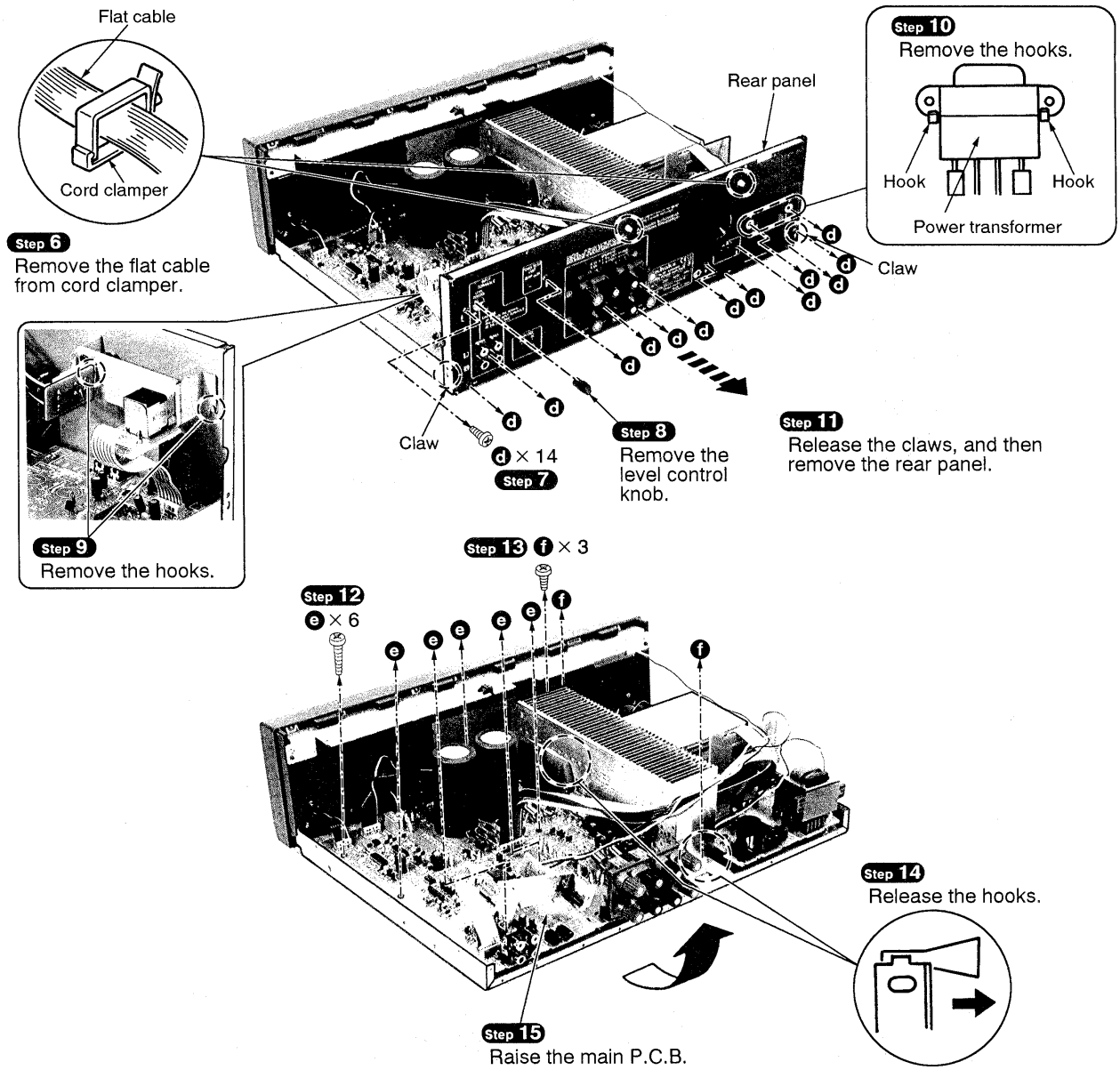
2.Replacement for the power IC and regulator transistor. ..... 10,11.

3.Replacement for the fan motor. ..... 11.

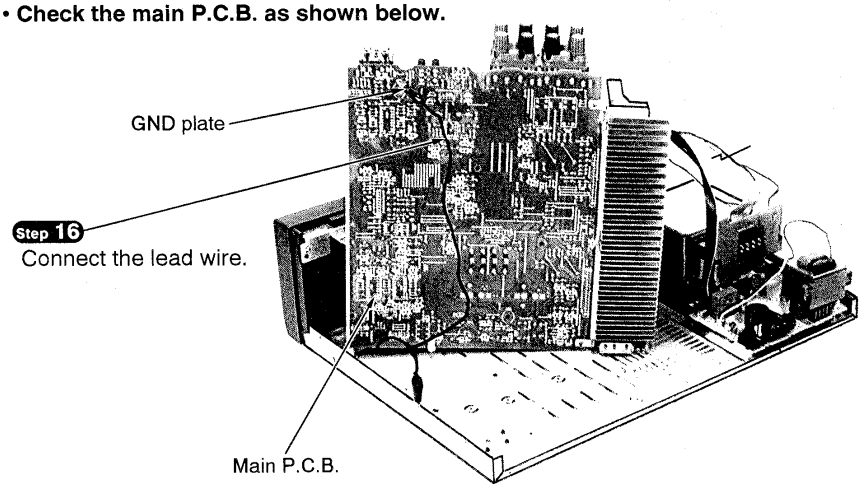
■ Checking Procedure for each P.C.B.

1. Checking for the main P.C.B.





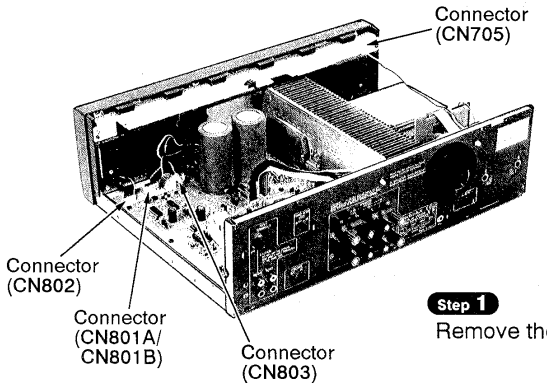
• **Check the main P.C.B. as shown below.**



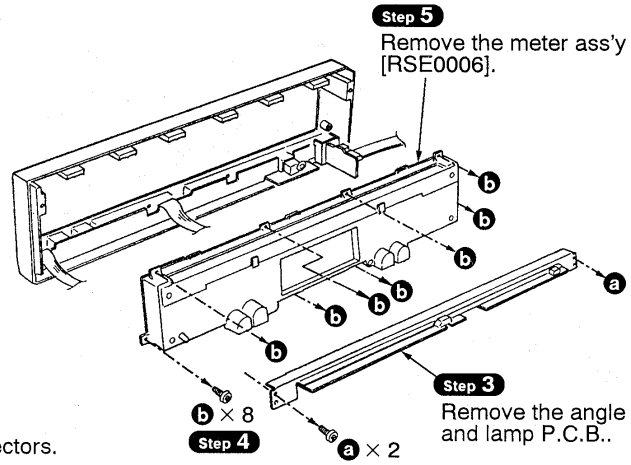
■ Main Component Replacement Procedures

1. Replacement for the meter ass'y

• Follow the Step 1 ~ Step 5 in item 1 on checking procedure for each P.C.B. on page 8.



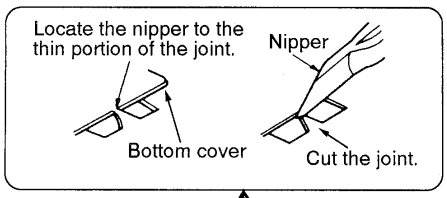
Step 1 Remove the 4 connectors.

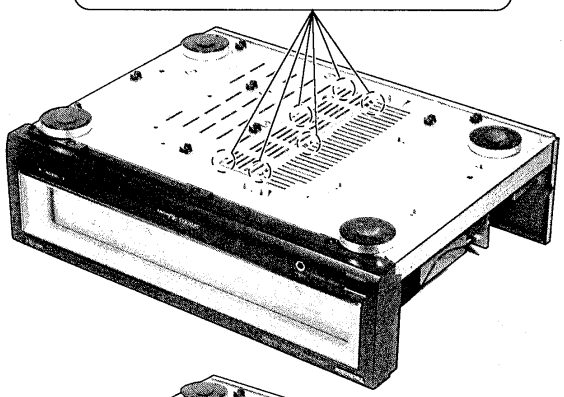


2. Replacement for the power IC and regulator transistor

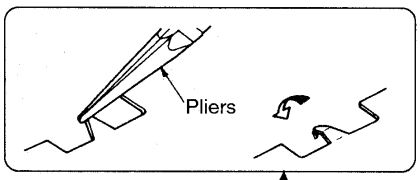
• Follow the Step 1 ~ Step 3 in item 1 on checking procedure for each P.C.B. on page 8.

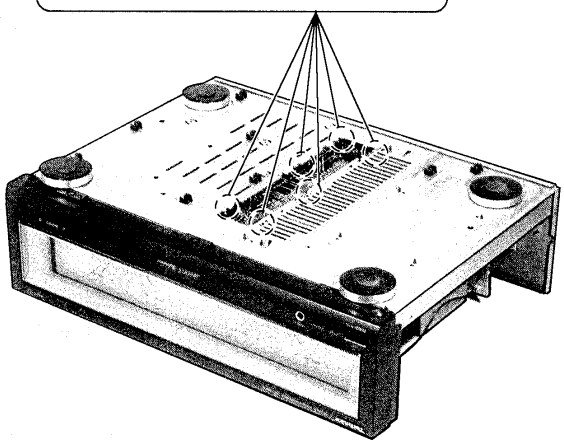
Step 1 Cut the joints as shown below.(6 portions)

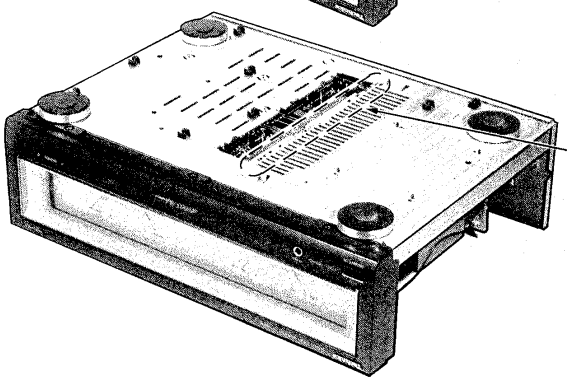




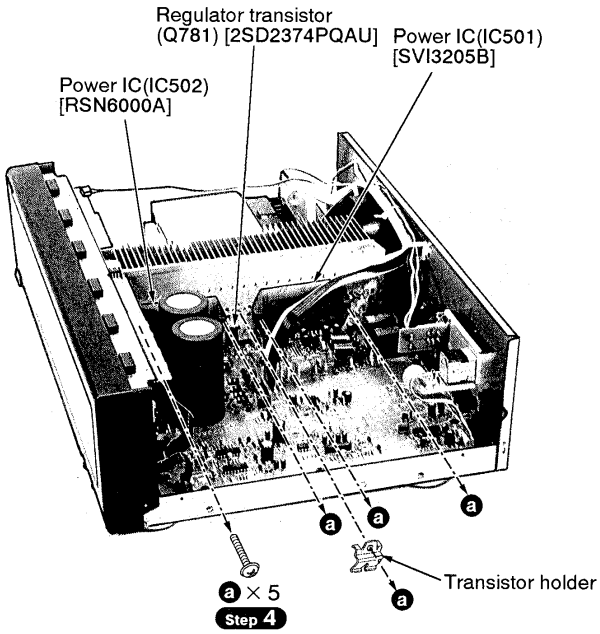
Step 2 Fold the joints.(6 portions)



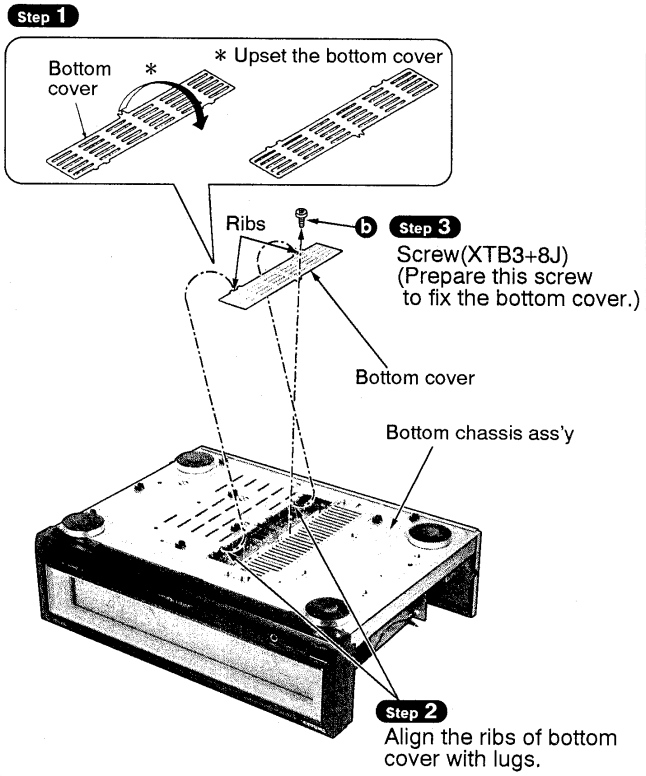




Step 3 Unsolder the terminals of power IC and regulator transistor.



Installation of the bottom cover after replacement

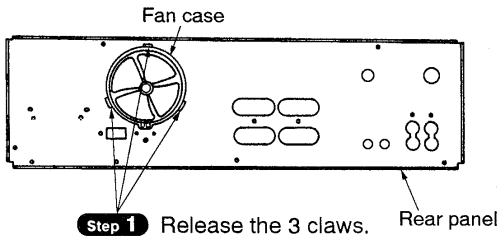


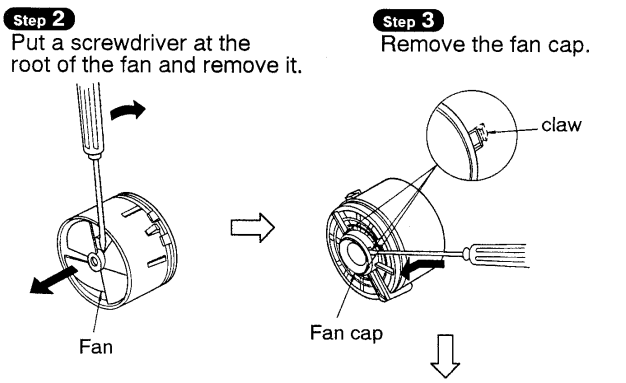
CAUTION

1. After replceing the power IC or regulator transistor,apply a sufficient quantity of compound grease (RFKX0002) between the heat sink and the power IC or regulator transistor (Radiation of power IC).
2. Tighten enough the screws (a) after replacing the power IC and regulator transisitor. Otherwise, the heat rabiation works little.

3. Replacement for the fan motor

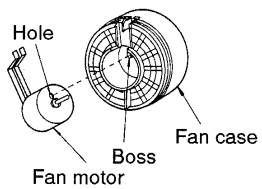
• Follow the Step 1 ~ Step 11 in item 1 on checking procedure for each P.C.B. on pages 8 and 9.

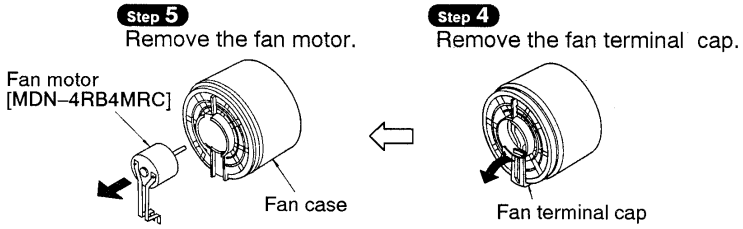




NOTE

When replacing the fan motor, align the boss of the fan case with the hole of the fan motor.





■ Measurements and Adjustments

Measuring Instruments and Special Tools

- AC electronic voltmeter (AC EVM)
- AF oscillator

Power Meter Adjustment

1. Test equipment connection is shown in Fig. 1.
2. Before turning **ON** the set, adjust **VR909 (L-ch)** and **VR910 (R-ch)** to mechanical center position (shown in Fig. 2).
3. Turn the power **ON**, make sure that the power meter is mechanically adjusted to **0** point (shown in Fig. 3).
4. Apply a **1 kHz** signal to the input terminal so that the output voltage of speaker terminal is **8.94 V** (adjust the signal level with the attenuator of AF oscillator).
5. Adjust **VR909 (L-ch)** and **VR910 (R-ch)** so that the power meter indicates **10 W** (shown in Fig. 4).

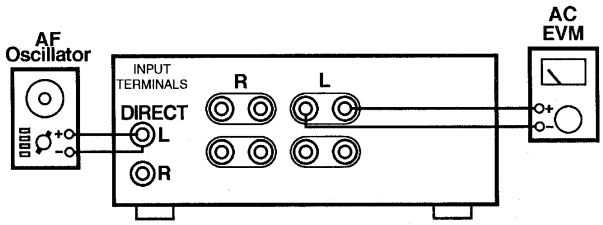


Fig. 1

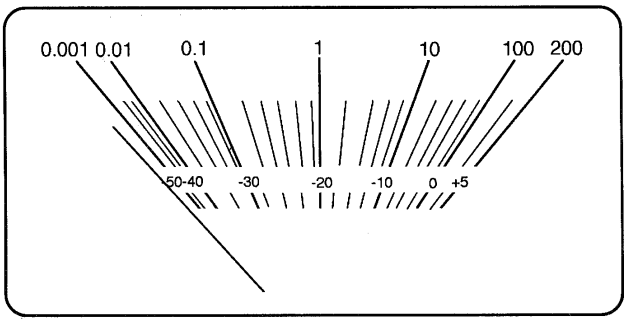


Fig. 3

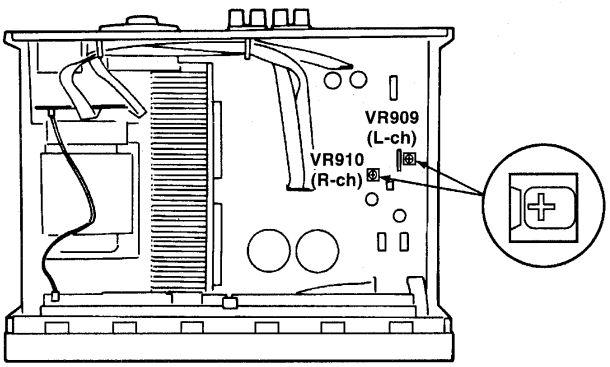


Fig. 2

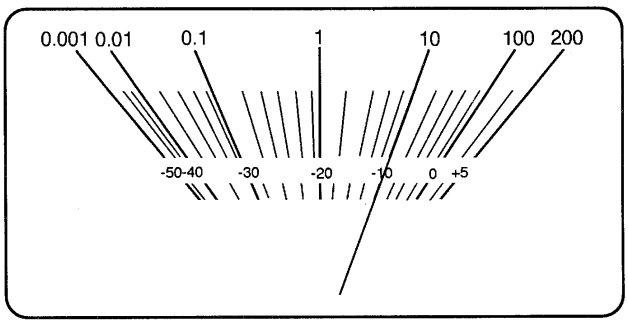


Fig. 4

■ Schematic Diagram

Page

A MAIN CIRCUIT ..... 14 – 17
B POWER LEVEL CIRCUIT 14
C POWER SWITCH CIRCUIT 16
D SP. SWITCH CIRCUIT 17
E HEADPHONES JACK CIRCUIT 17
F LED CIRCUIT 17
G LAMP (RIGHT) CIRCUIT 17
H LAMP (LEFT) CIRCUIT 17
I LIGHT SWITCH CIRCUIT 17
J POWER TRANSFORMER CIRCUIT 17
K POWER SUPPLY CIRCUIT 17

- **This schematic diagram may be modified at any time with the development of new technology.**

Notes:
- **S801** : Power "STANDBY ⏻ /ON" switch (POWER, STANDBY ⏻ /ON)
- **S802** : Speaker select switch (SPEAKER A)
- **S803** : Speaker select switch (SPEAKER B)
- **S805** : Power meter light switch (POWER METER LIGHT)
- **VR401** : Input level control VR (LEVEL CONTROL)
- **VR909** : Power meter adjustment VR (L ch)
- **VR910** : Power meter adjustment VR (R ch)

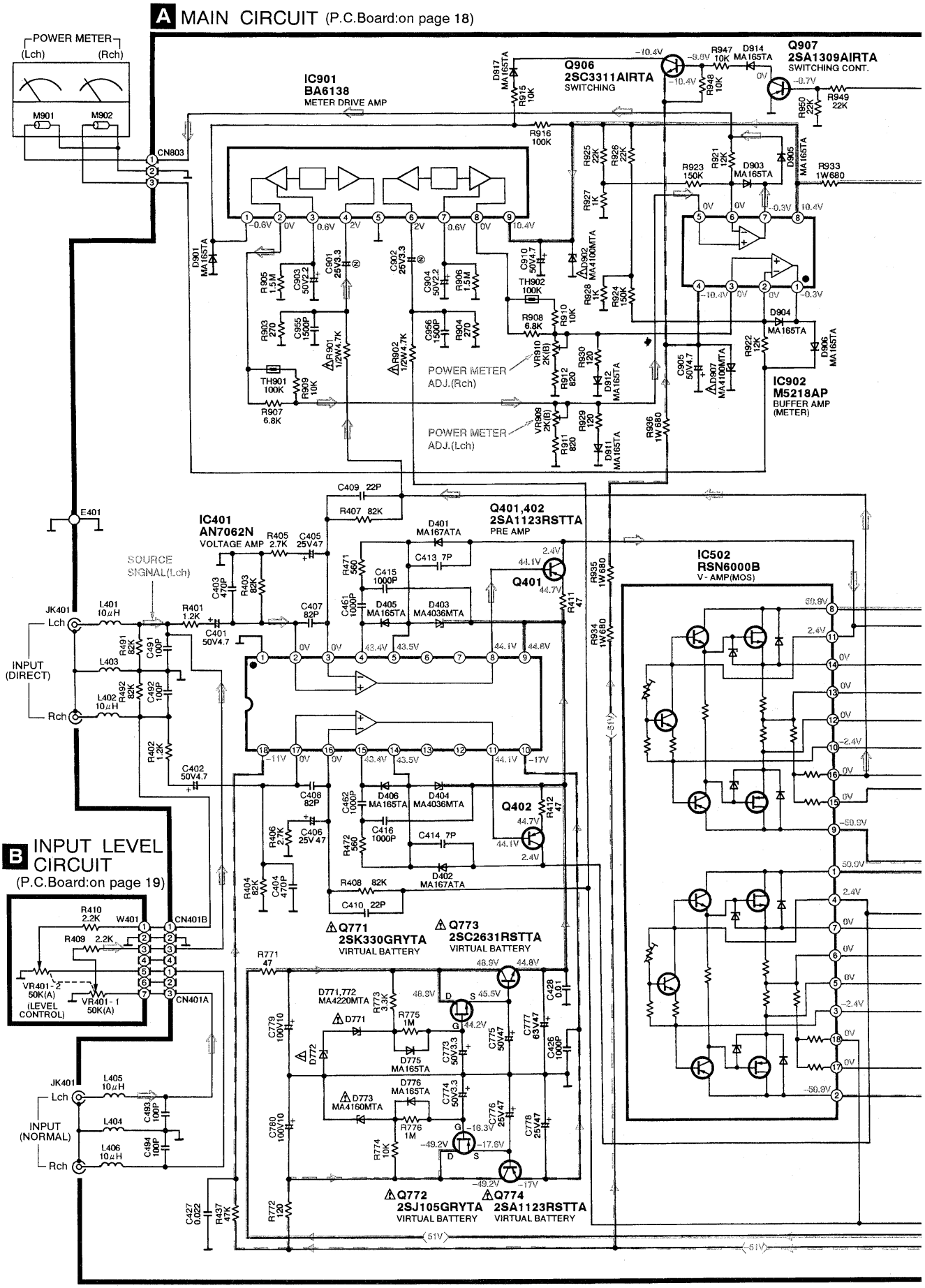
- Indicated voltage values are the standard values for the unit measured by the DC electronic circuit tester (high-impedance) with the chassis taken as standard. Therefore, there may exist some errors in the voltage values, depending on the internal impedance of the DC circuit tester.
  No mark: Power ON

- Voltage and signal line

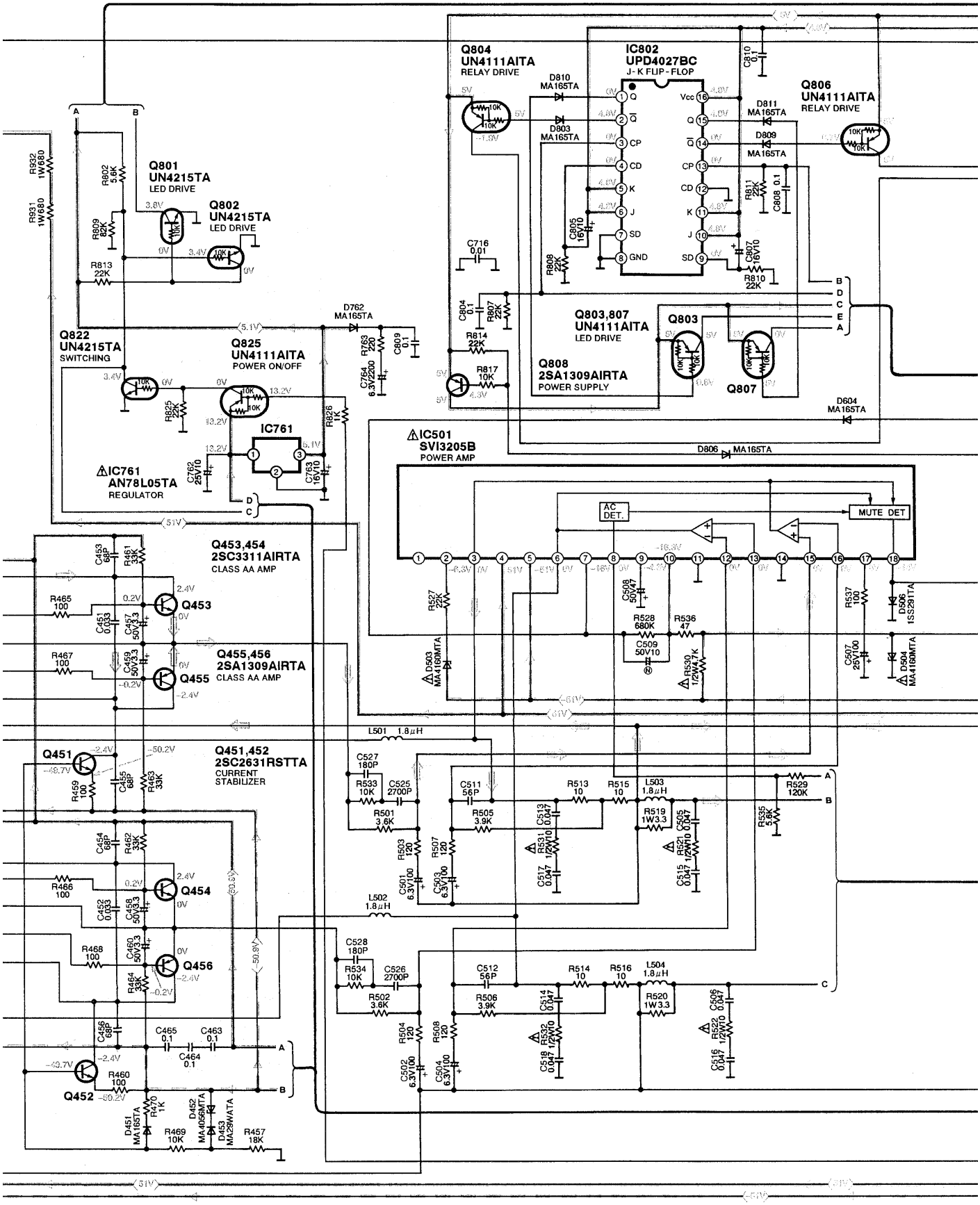
  : Source Signal Line
  : Positive Voltage Line
  : Negative Voltage Line

- Important safety notice:
  Components identified by ⚠ mark have special characteristics important for safety.
  Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

- **Caution!**
  IC and LSI are sensitive to static electricity.
  Secondary trouble can be prevented by taking care during repair.
  Cover the parts boxes made of plastics with aluminum foil.
  Ground the soldering iron.
  Put a conductive mat on the work table.
  Do not touch the legs of IC or LSI with the fingers directly.

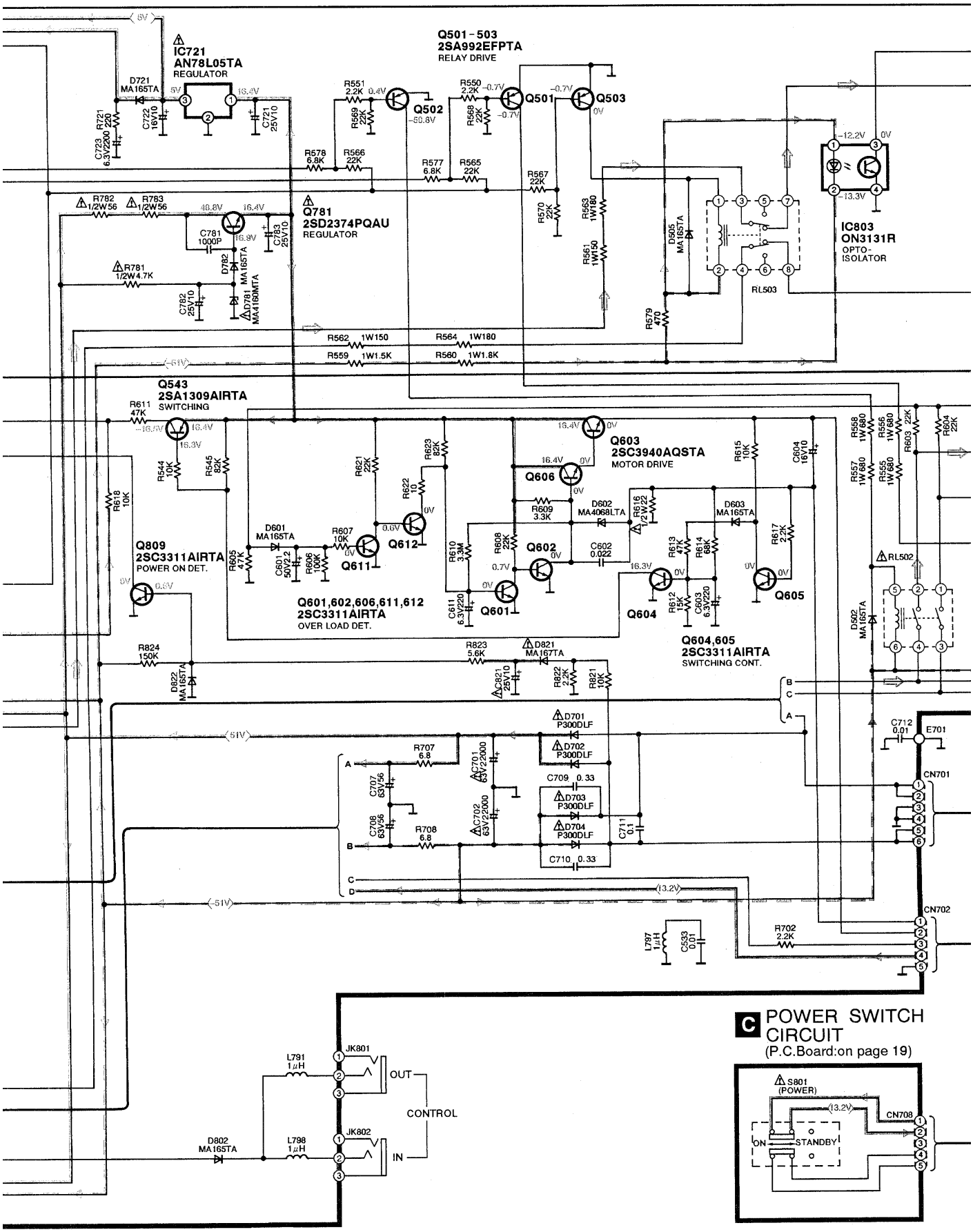

A MAIN CIRCUIT (P.C.Board:on page 18)
POWER METER
(Lch) (Rch)
M901 M902
CN803
IC901
BA6138
METER DRIVE AMP
Q906
2SC3311AIRTA
SWITCHING
Q907
2SA1309AIRTA
SWITCHING CONT.
IC902
M5218AP
BUFFER AMP
(METER)
POWER METER
ADJ.(Rch)
POWER METER
ADJ.(Lch)
IC401
AN7062N
VOLTAGE AMP
Q401,402
2SA1123RSTTA
PRE AMP
Q401
Q402
IC502
RSN6000B
V-AMP(MOS)
SOURCE
SIGNAL(Lch)
INPUT
(DIRECT)
INPUT
(NORMAL)
B INPUT LEVEL
CIRCUIT
(P.C.Board:on page 19)
VR401-2
50K(A)
(LEVEL
CONTROL)
VR401-1
50K(A)
Q771
2SK330GRYTA
VIRTUAL BATTERY
Q773
2SC2631RSTTA
VIRTUAL BATTERY
Q772
2SJ105GRYTA
VIRTUAL BATTERY
Q774
2SA1123RSTTA
VIRTUAL BATTERY

: Source Signal Line : Positive Voltage Line : Negative Voltage Line

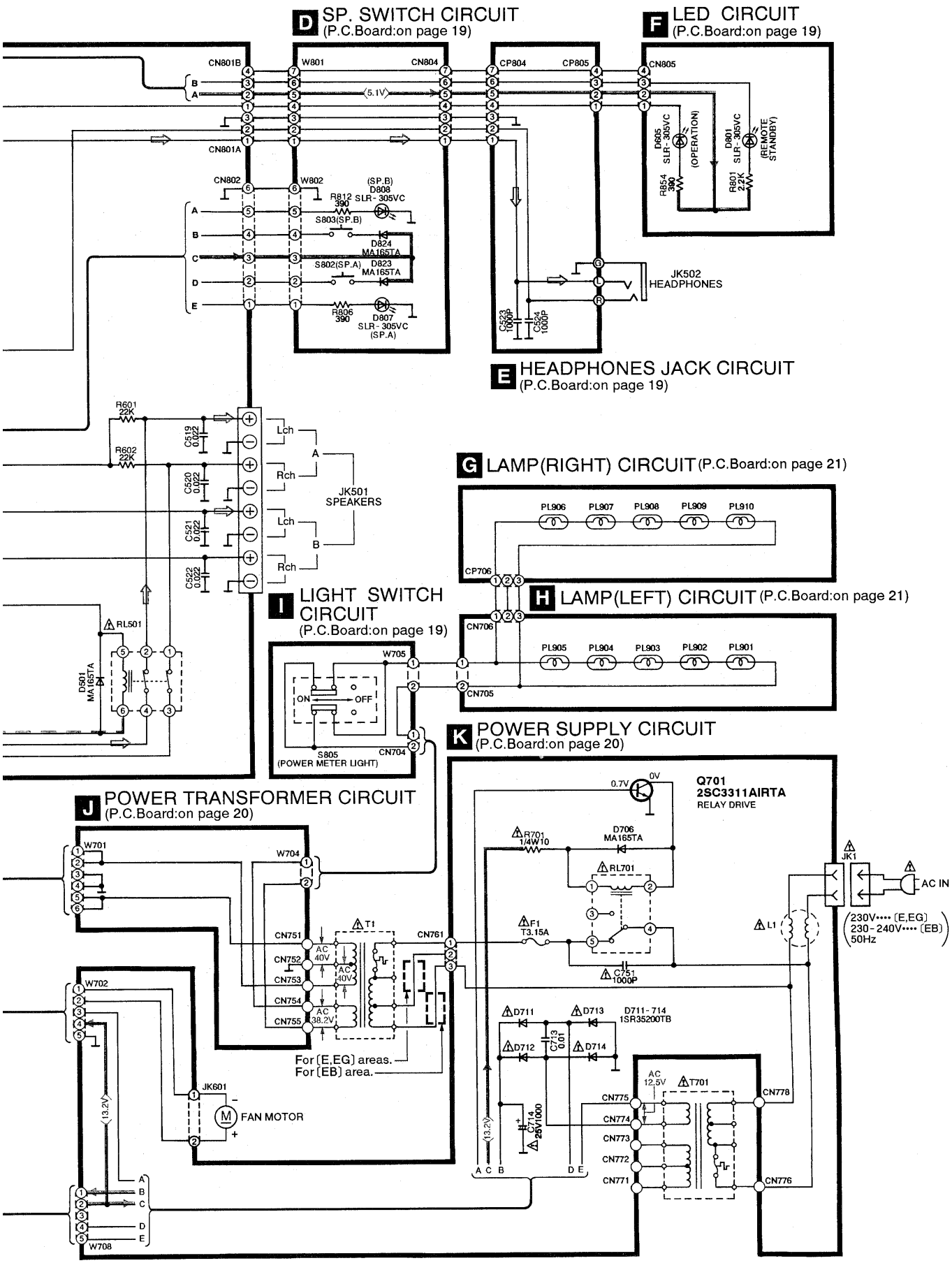


: Source Signal Line : Positive Voltage Line : Negative Voltage Line

A MAIN CIRCUIT (P.C.Board:on page 18)



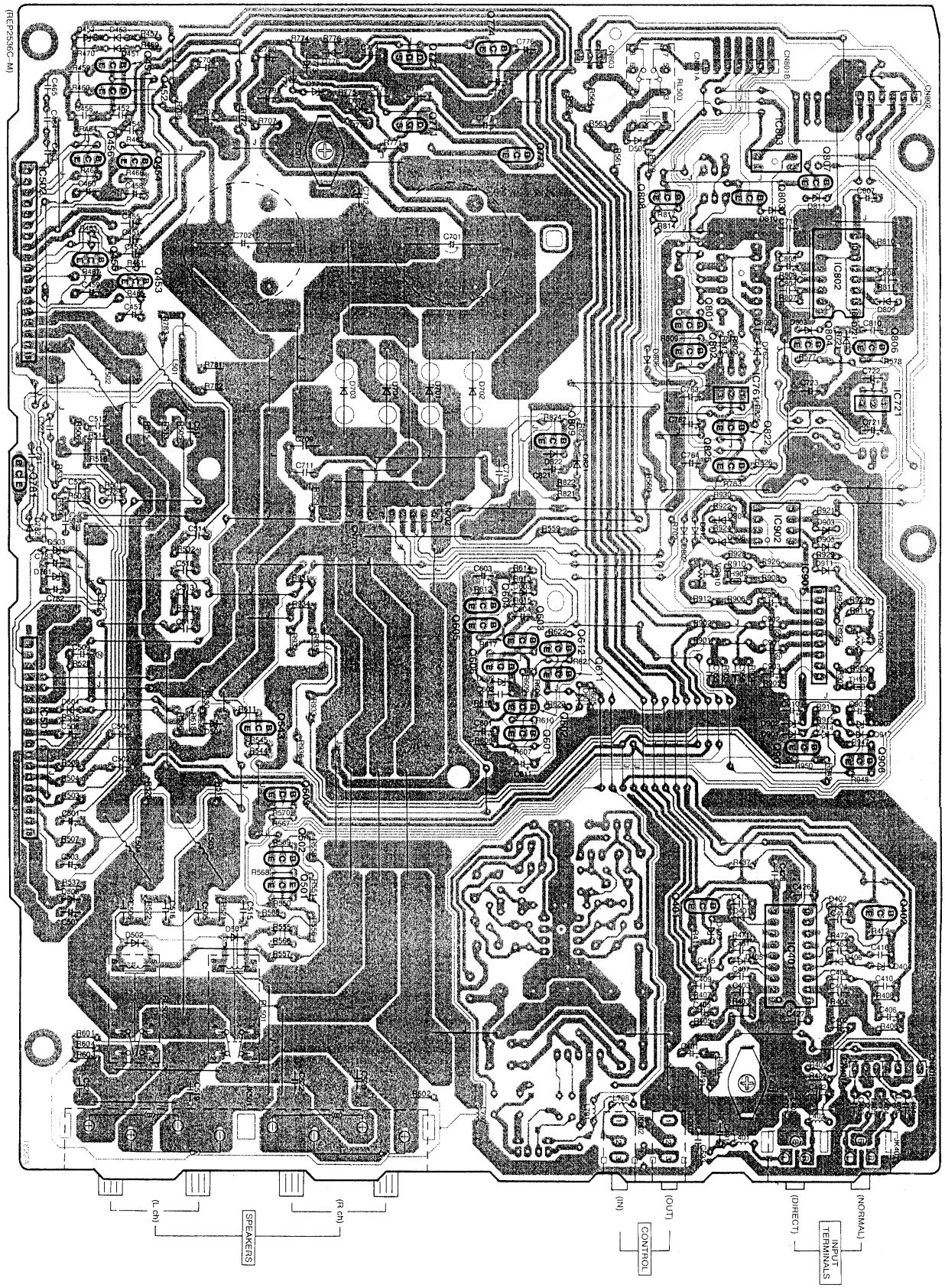
C POWER SWITCH CIRCUIT (P.C.Board:on page 19)


D SP. SWITCH CIRCUIT
(P.C.Board:on page 19)
F LED CIRCUIT
(P.C.Board:on page 19)
E HEADPHONES JACK CIRCUIT
(P.C.Board:on page 19)
G LAMP(RIGHT) CIRCUIT (P.C.Board:on page 21)
H LAMP(LEFT) CIRCUIT (P.C.Board:on page 21)
I LIGHT SWITCH CIRCUIT
(P.C.Board:on page 19)
K POWER SUPPLY CIRCUIT
(P.C.Board:on page 20)
J POWER TRANSFORMER CIRCUIT
(P.C.Board:on page 20)
JK501 SPEAKERS
JK502 HEADPHONES
FAN MOTOR
Q701 2SC3311AIRTA RELAY DRIVE
AC IN
For [E,EG] areas.
For [EB] area.

■ Printed Circuit Board Diagram

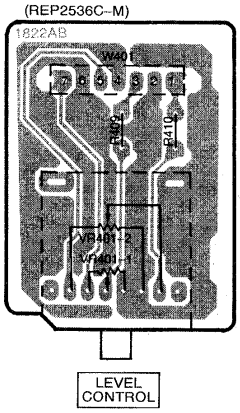
● This circuit board diagram may be modified at any time with the development of new technology.

A MAIN P.C.B.

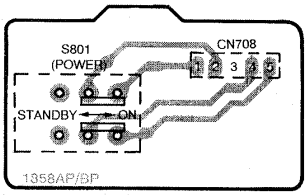


B INPUT LEVEL P.C.B.

(REP2536C–M)

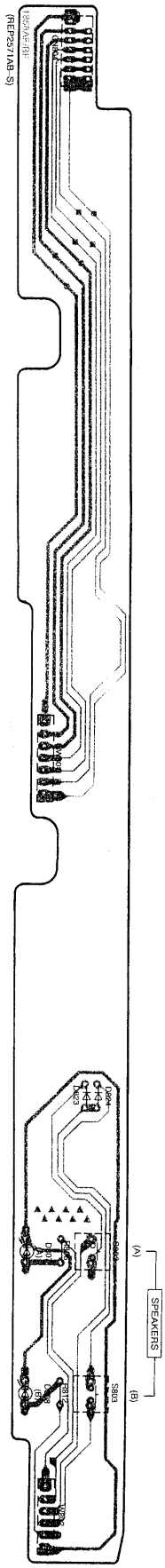


C POWER SWITCH P.C.B.

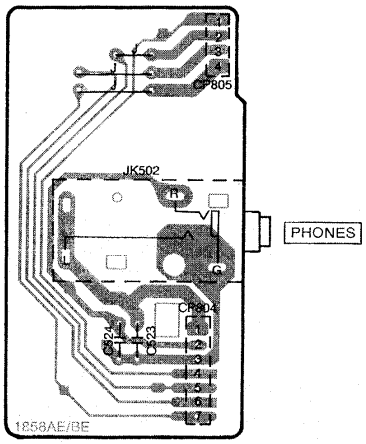


(REP2571AB–S)

D SP. SWITCH P.C.B.

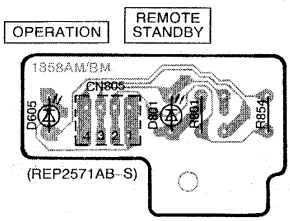


E HEADPHONES JACK P.C.B.

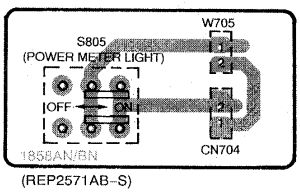


(REP2571AB–S)

F LED P.C.B.

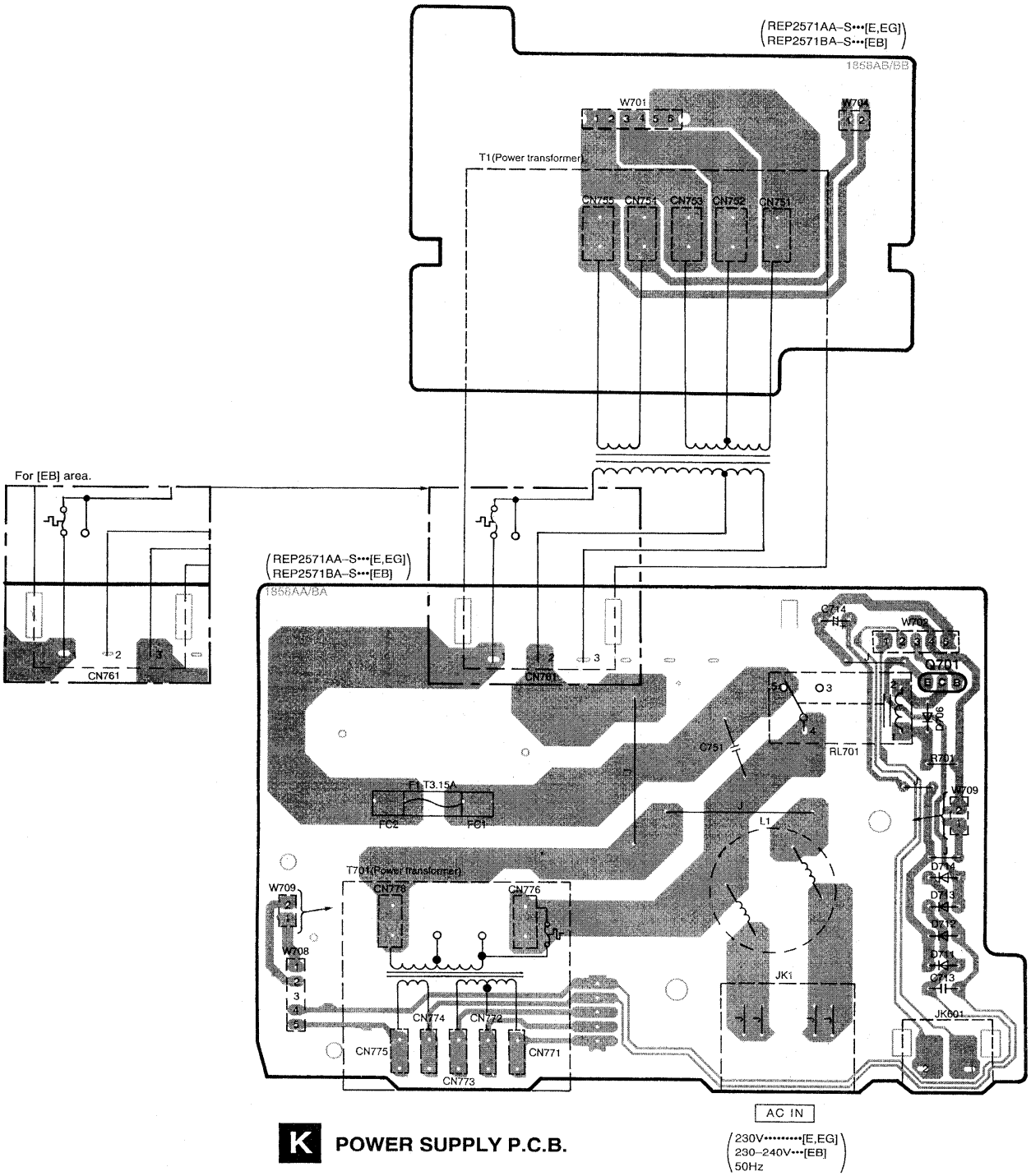


I LIGHT SWITCH P.C.B.



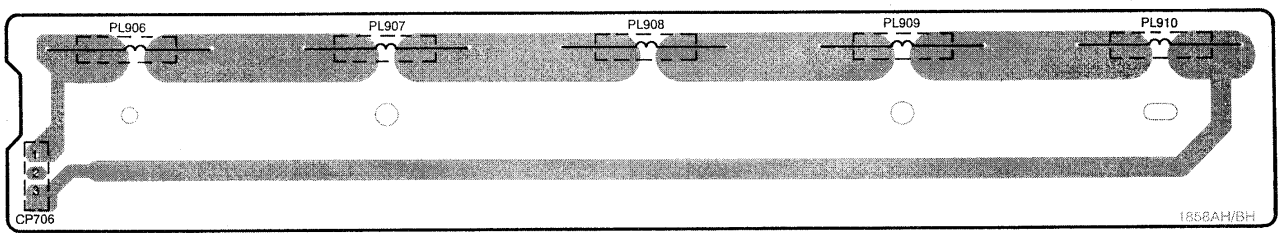
(REP2571AB–S)

J POWER TRANSFORMER P.C.B.



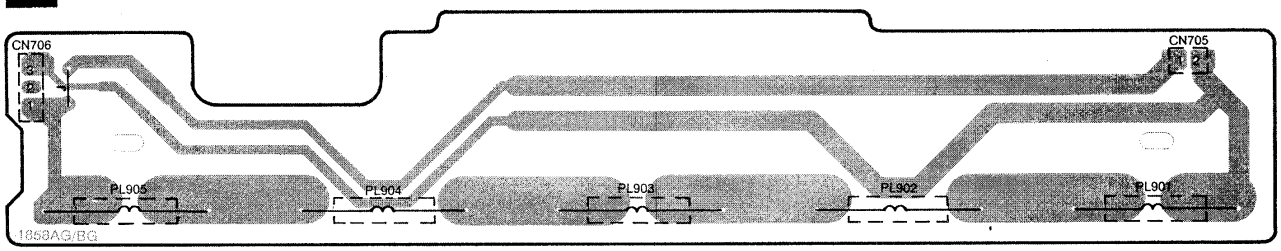
K POWER SUPPLY P.C.B.

G LAMP (RIGHT) P.C.B.



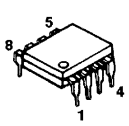
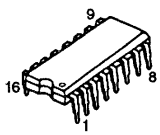
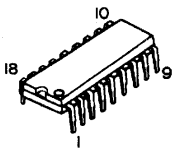
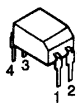
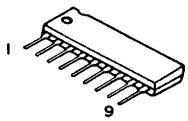
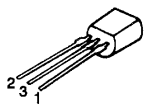
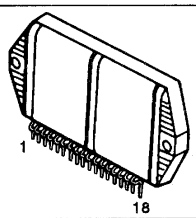
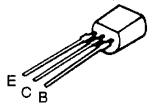
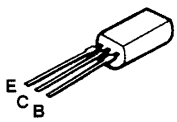
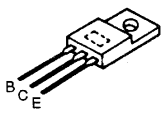
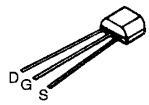
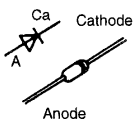
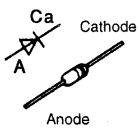
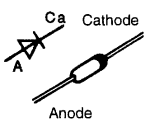
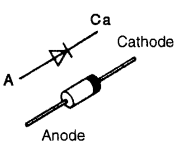
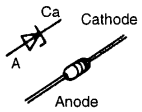
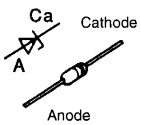
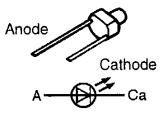
(REP2571AB-S)

H LAMP (LEFT) P.C.B.

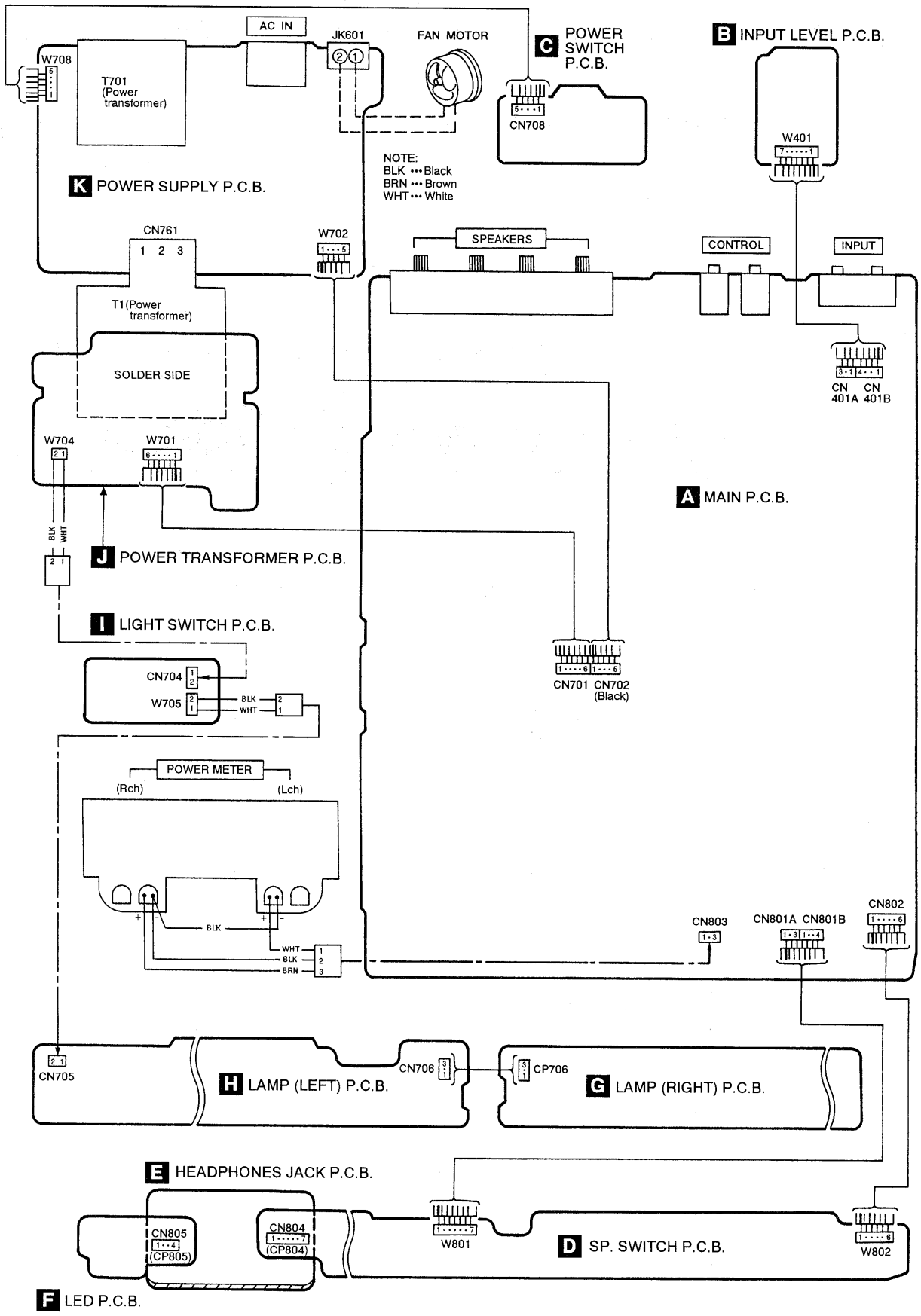


(REP2571AB-S)

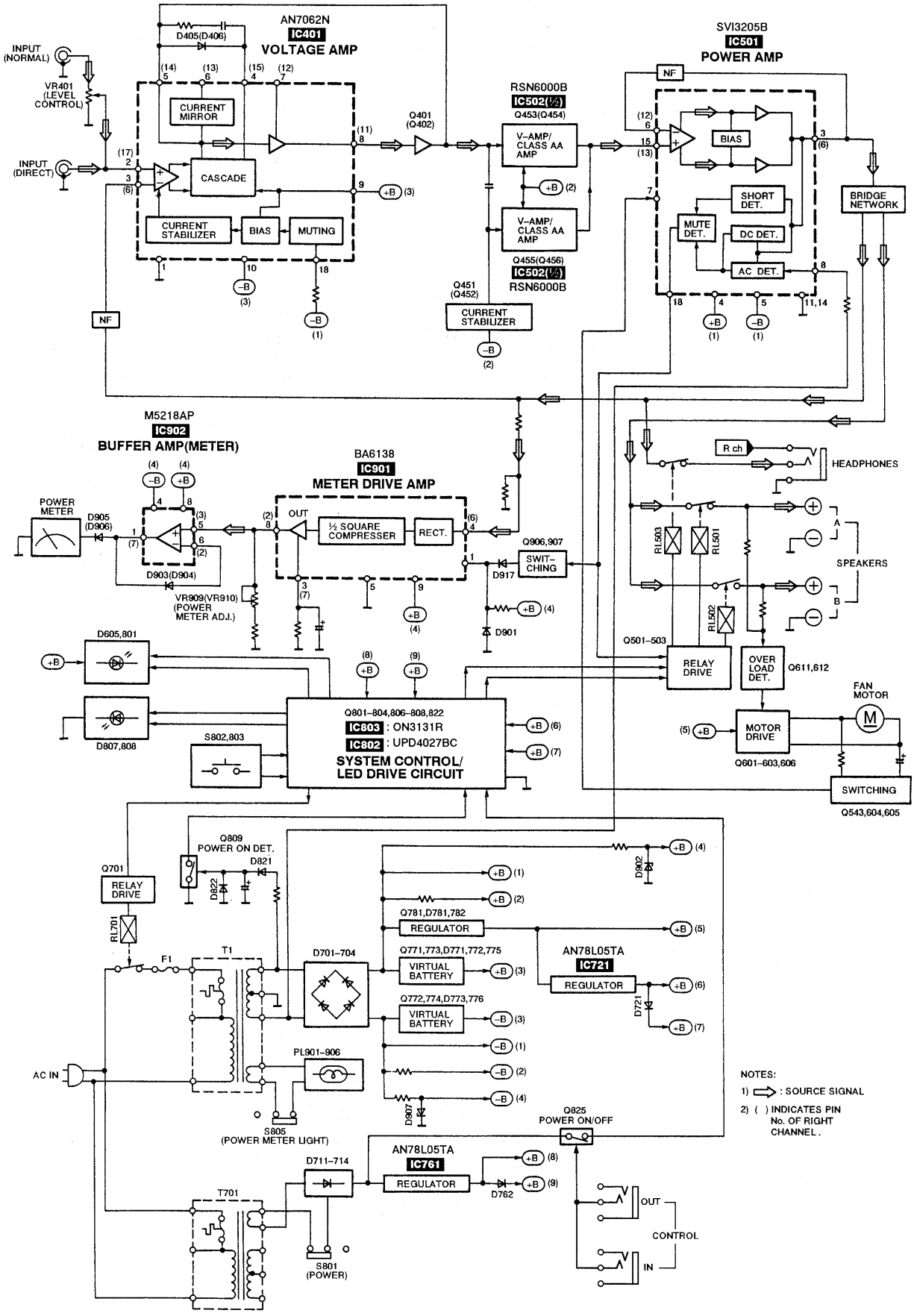
■ Type Illustration of IC's, Transistors and Diodes

M5218AP 	UPD4027BC 	AN7062N 	0N3131R 	BA6138 	AN78L05TA 
 RSN6000A SVI3205B		2SA992EFPTA 2SA1123RSTTA 2SC2631RSTTA 	2SC3940AQSTA 	2SD2374PQAU 	2SJ105GRYTA 2SK330GRYTA 
2SA1309AIRTA 2SC3311AIRTA UN4111 UN4215		 MA165 MA167 MA29WA		1SS291TA 	1SR35200TB 
P300DLF 	MA4036MTA MA4056MTA MA4068L 	 MA4100MTA MA4160M MA4220MTA		SLR-305VC 	

■ Wiring Connection Diagram



■ Block Diagram



■ Replacement Parts List (Electrical)

Notes: *Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacture's specified parts shown in the parts list.
*The parenthesized indications in the Remarks columns specify the areas. (Refer to the cover page for area.)
Parts without these indications can be used for all areas.
*[M] Indicates in Remarks columns parts that are supplied by MESA.

Ref. No.	Part No.	Part Name & Description	Remarks
		INTEGRATED CIRCUIT(S)	
IC401	AN7062N	IC	[M]
IC501	SVI3205B	IC	[M]⚠
IC502	RSN6000A	IC	[M]
IC721	AN78L05TA	IC	[M]⚠
IC761	AN78L05TA	IC	[M]⚠
IC802	UPD4027BC	IC	[M]
IC803	ON3131R	IC	[M]
IC901	BA6138	IC	[M]
IC902	M5218AP	IC	[M]
		TRANSISTOR(S)	
Q401, 402	2SA1123RSTTA	TRANSISTOR	[M]
Q451, 452	2SC2631RSTTA	TRANSISTOR	[M]
Q453, 454	2SC3311AIRTA	TRANSISTOR	[M]
Q455, 456	2SA1309AIRTA	TRANSISTOR	[M]
Q501-503	2SA992EFPTA	TRANSISTOR	[M]
Q543	2SA1309AIRTA	TRANSISTOR	[M]
Q601, 602	2SC3311AIRTA	TRANSISTOR	[M]
Q603	2SC3940AQSTA	TRANSISTOR	[M]
Q604-606	2SC3311AIRTA	TRANSISTOR	[M]
Q611, 612	2SC3311AIRTA	TRANSISTOR	[M]
Q701	2SC3311AIRTA	TRANSISTOR	[M]
Q771	2SK330GRYTA	TRANSISTOR	[M]⚠
Q772	2SJ105GRYTA	TRANSISTOR	[M]⚠
Q773	2SC2631RSTTA	TRANSISTOR	[M]⚠
Q774	2SA1123RSTTA	TRANSISTOR	[M]⚠
Q781	2SD2374PQAU	TRANSISTOR	[M]⚠
Q801, 802	UN4215	TRANSISTOR	[M]
Q803, 804	UN4111	TRANSISTOR	[M]
Q806, 807	UN4111	TRANSISTOR	[M]
Q808	2SA1309AIRTA	TRANSISTOR	[M]
Q809	2SC3311AIRTA	TRANSISTOR	[M]
Q822	UN4215	TRANSISTOR	[M]
Q825	UN4111	TRANSISTOR	[M]
Q906	2SC3311AIRTA	TRANSISTOR	[M]
Q907	2SA1309AIRTA	TRANSISTOR	[M]
		DIODE(S)	
D401, 402	MA167	DIODE	[M]
D403, 404	MA4036MTA	DIODE	[M]
D405, 406	MA165	DIODE	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
D451	MA165	DIODE	[M]
D452	MA4056MTA	DIODE	[M]
D453	MA29WA	DIODE	[M]
D501, 502	MA165	DIODE	[M]
D503, 504	MA4160M	DIODE	[M]⚠
D505	MA165	DIODE	[M]
D506	1SS291TA	DIODE	[M]
D601	MA165	DIODE	[M]
D602	MA4068L	DIODE	[M]
D603, 604	MA165	DIODE	[M]
D605	SLR-305VC	LED	[M]
D701-704	P300DLF	DIODE	[M]⚠
D706	MA165	DIODE	[M]
D711-714	1SR35200TB	DIODE	[M]⚠
D721	MA165	DIODE	[M]
D762	MA165	DIODE	[M]
D771, 772	MA4220MTA	DIODE	[M]⚠
D773	MA4160M	DIODE	[M]⚠
D775, 776	MA165	DIODE	[M]
D781	MA4160M	DIODE	[M]⚠
D782	MA165	DIODE	[M]
D801	SLR-305VC	LED	[M]
D802, 803	MA165	DIODE	[M]
D806	MA165	DIODE	[M]
D807, 808	SLR-305VC	LED	[M]
D809-811	MA165	DIODE	[M]
D821	MA167	DIODE	[M]⚠
D822-824	MA165	DIODE	[M]
D901	MA165	DIODE	[M]
D902	MA4100MTA	DIODE	[M]⚠
D903-906	MA165	DIODE	[M]
D907	MA4100MTA	DIODE	[M]⚠
D911, 912	MA165	DIODE	[M]
D914	MA165	DIODE	[M]
D917	MA165	DIODE	[M]
		VARIABLE RESISTOR(S)	
VR401	EUWM3R020A54	V.R	[M]
VR909, 910	EVNDXAA00B23	V.R	[M]
		THERMISTOR(S)	
TH901, 902	ERTD2ZHL104T	THERMISTOR	[M]
		COIL(S)	

Ref. No.	Part No.	Part Name & Description	Remarks
L1	SLQZ650MH49	COIL	[M]⚠
L401, 402	RLQA100JT-Y	COIL	[M]
L403, 404	BL02RN1R62T2	COIL	[M]
L405, 406	RLQA100JT-Y	COIL	[M]
L501-504	SLQY18G-10	COIL	[M]
L791	ELEXT1R0KA9	COIL	[M]
L797, 798	ELEXT1R0KA9	COIL	[M]
		POWER TRANSFORMER(S)	
T1⚠	RTP1P5B005-W	POWER TRANSFORMER	[M]
T701⚠	RTP1J5B001	POWER TRANSFORMER	[M]
		LAMP(S)	
PL901-910	XAMR131	LAMP	[M]
		FUSE(S)	
F1⚠	XBA2C31TB0	FUSE, 250V, T3.15A	[M]
		SWITCH(ES)	
S801	RSP2B023-A	SW	[M]⚠
S802, 803	EVQPTD05Q	SW	[M]
S805	RSP2B023-A	SW	[M]
		CONNECTOR(S)	
CN701	RJS1A6606	CONNECTOR(6P)	[M]
CN702	RJS1A6605	CONNECTOR(5P)	[M]
CN704	RJP2G18ZA	CONNECTOR(2P)	[M]
CN705	RJP2G17ZA	CONNECTOR(2P)	[M]
CN706	SJS50382JQH	SOCKET(3P)	[M]
CN708	RJS1A6605	CONNECTOR(5P)	[M]
CN751-755	RJS1A1101T1	CONNECTOR(1P)	[M]
CN761	SJS305-1	CONNECTOR(3P)	[M]
CN771-776	RJS1A1101T1	CONNECTOR(1P)	[M]
CN778	RJS1A1101T1	CONNECTOR(1P)	[M]
CN802	RJS1A6606	CONNECTOR(6P)	[M]
CN803	RJP3G18ZA	CONNECTOR(3P)	[M]
CN804	RJU057W007	CONNECTOR(7P)	[M]
CN805	RJU057W004	CONNECTOR(4P)	[M]
CN401A	RJS1A6603	CONNECTOR(3P)	[M]
CN801A	RJS1A6603	CONNECTOR(3P)	[M]
CN401B	RJS1A6604	CONNECTOR(4P)	[M]
CN801B	RJS1A6604	CONNECTOR(4P)	[M]
CP706	SJT30345JQ	CONNECTOR(3P)	[M]
CP804	RJT057W007-1	CONNECTOR(7P)	[M]
CP805	RJT057W004-1	CONNECTOR(4P)	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		EARTH TERMINAL(S)	
E401	SNE1004-2	EARTH TERMINAL	[M]
E701	SNE1004-2	EARTH TERMINAL	[M]
		FUSE HOLDER	
FC1, 2	EYF52BC	FUSE HOLDER	[M]
		RELAY(S)	
RL501, 502	RSY0013M-0	RELAY	[M]⚠
RL503	RSY0020M-R	RELAY	[M]
RL701	RSY0019M-0	RELAY	[M]⚠
		JACK(S)	
JK1	SJS9236-1	AC INLET	[M]⚠
JK401	SJF3069A	JACK INPUT	[M]
JK501	RJH4801M-2	SPEAKER TERMINAL	[M]
JK502	RJJ63TA01	HEADPHONE JACK	[M]
JK601	RJS1A7402-1	CONNECTOR, FAN MOTOR	[M]
JK801	RJJ33T01	JACK, CONTROL OUT	[M]
JK802	RJJ33T01	JACK, CONTROL IN	[M]

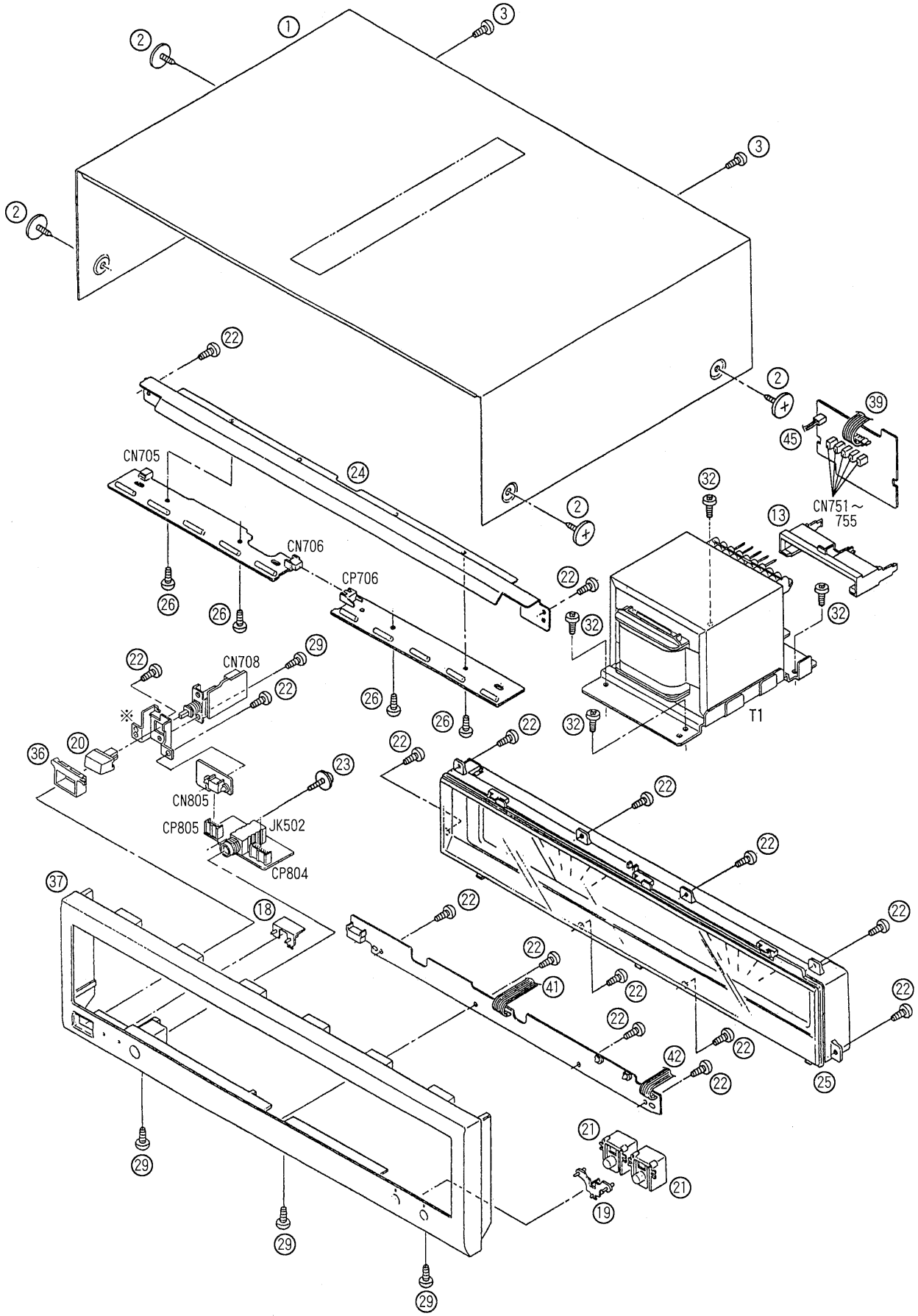
■ Replacement Parts List (Resistors and Capacitors)

Notes : * Capacity values are in microfarads (uF) unless specified otherwise, P=Pico-farads(pF) F=Farads(F)
* Resistance values are in ohms, unless specified otherwise, 1K=1,000(OHM) , 1M=1,000k(OHM)

Ref. No.	Part No.	Values & Remarks
		RESISTORS
R401, 402	ERDS2FJ122	1/4W 1.2K [M]
R403, 404	ERDS2FJ823	1/4W 82K [M]
R405, 406	ERDS2FJ272	1/4W 2.7K [M]
R407, 408	ERDS2FJ823	1/4W 82K [M]
R409, 410	ERDS2FJ222	1/4W 2.2K [M]
R411, 412	ERDS2FJ470	1/4W 47 [M]
R437	ERDS2FJ473	1/4W 47K [M]
R457	ERDS2FJ183	1/4W 18K [M]
R459, 460	ERDS2FJ101	1/4W 100 [M]
R461-464	ERDS2FJ333	1/4W 33K [M]
R465-468	ERDS2FJ101	1/4W 100 [M]
R469	ERDS2FJ103	1/4W 10K [M]
R470	ERDS2FJ102	1/4W 1K [M]
R471, 472	ERDS2FJ561	1/4W 560 [M]
R491, 492	ERDS2FJ823	1/4W 82K [M]
R501, 502	ERDS2FJ362	1/4W 3.6K [M]
R503, 504	ERDS2FJ121	1/4W 120 [M]
R505, 506	ERDS2FJ392	1/4W 3.9K [M]
R507, 508	ERDS2FJ121	1/4W 120 [M]
R513-516	ERDS2FJ100	1/4W 10 [M]
R519, 520	ERX1SJ3R3	1W 3.3 [M]
R521, 522⚠	ERDS1FJ100	1/2W 10 [M]
R527	ERDS2FJ223	1/4W 22K [M]
R528	ERDS2FJ684	1/4W 680K [M]
R529	ERDS2FJ124	1/4W 120K [M]
R530⚠	ERDS1FJ472	1/2W 4.7K [M]
R531, 532⚠	ERDS1FJ100	1/2W 10 [M]
R533, 534	ERDS2FJ103	1/4W 10K [M]
R535	ERDS2FJ562	1/4W 5.6K [M]
R536	ERDS2FJ470	1/4W 47 [M]
R537	ERDS2FJ101	1/4W 100 [M]
R544	ERDS2FJ103	1/4W 10K [M]
R545	ERDS2FJ823	1/4W 82K [M]
R550, 551	ERDS2FJ222	1/4W 2.2K [M]
R555-558	ERG1SJ681	1W 680 [M]
R559	ERG1SJ152	1W 1.5K [M]
R560	ERG1SJ182	1W 1.8K [M]
R561, 562	ERG1SJ151	1W 150 [M]
R563, 564	ERG1SJ181	1W 180 [M]
R565-570	ERDS2FJ223	1/4W 22K [M]
R577, 578	ERDS2FJ682	1/4W 6.8K [M]
R579	ERDS2FJ471	1/4W 470 [M]
R601-604	ERDS2FJ223	1/4W 22K [M]
R605	ERDS2FJ473	1/4W 47K [M]
R606	ERDS2FJ104	1/4W 100K [M]
R607	ERDS2FJ103	1/4W 10K [M]
R608	ERDS2FJ223	1/4W 22K [M]
R609	ERDS2FJ332	1/4W 3.3K [M]
R610	ERDS2TJ335T	1/4W 3.3M [M]
R611	ERDS2FJ473	1/4W 47K [M]
R612	ERDS2FJ153	1/4W 15K [M]
R613	ERDS2FJ473	1/4W 47K [M]
R614	ERDS2FJ683	1/4W 68K [M]
R615	ERDS2FJ103	1/4W 10K [M]
R616⚠	ERDS1FJ220	1/2W 22 [M]
R617	ERDS2FJ222	1/4W 2.2K [M]
R618	ERDS2FJ103	1/4W 10K [M]
R621	ERDS2FJ223	1/4W 22K [M]
R622	ERDS2FJ100	1/4W 10 [M]
R623	ERDS2FJ823	1/4W 82K [M]
R701⚠	ERDS2FJ100	1/4W 10 [M]
R702	ERDS2FJ222	1/4W 2.2K [M]
R707, 708	ERDS2FJ6R8	1/4W 6.8 [M]
R721	ERDS2FJ221	1/4W 220 [M]
R763	ERDS2FJ221	1/4W 220 [M]
R771	ERDS2FJ470	1/4W 47 [M]
R772	ERDS2FJ121	1/4W 120 [M]
R773	ERDS2FJ332	1/4W 3.3K [M]
R774	ERDS2FJ103	1/4W 10K [M]
R775, 776	ERDS2FJ105	1/4W 1M [M]
R781⚠	ERDS1FJ472	1/2W 4.7K [M]
R782, 783⚠	ERDS1FJ560	1/2W 56 [M]
R801	ERDS2FJ222	1/4W 2.2K [M]
R802	ERDS2FJ562	1/4W 5.6K [M]
R806	ERDS2FJ391	1/4W 390 [M]
R807, 808	ERDS2FJ223	1/4W 22K [M]
R809	ERDS2FJ823	1/4W 82K [M]
R810, 811	ERDS2FJ223	1/4W 22K [M]
R812	ERDS2FJ391	1/4W 390 [M]
R813, 814	ERDS2FJ223	1/4W 22K [M]
R817	ERDS2FJ103	1/4W 10K [M]
R821	ERDS2FJ103	1/4W 10K [M]
R822	ERDS2FJ222	1/4W 2.2K [M]
R823	ERDS2FJ562	1/4W 5.6K [M]
R824	ERDS2FJ154	1/4W 150K [M]
R825	ERDS2FJ223	1/4W 22K [M]
R826	ERDS2FJ102	1/4W 1K [M]
R854	ERDS2FJ391	1/4W 390 [M]
R901, 902⚠	ERDS1FJ472	1/2W 4.7K [M]
R903, 904	ERDS2FJ271	1/4W 270 [M]
R905, 906	ERDS2TJ155	1/4W 1.5M [M]
R907, 908	ERDS2FJ682	1/4W 6.8K [M]
R909, 910	ERDS2FJ103	1/4W 10K [M]
R911, 912	ERDS2FJ821	1/4W 820 [M]
R915	ERDS2FJ103	1/4W 10K [M]
R916	ERDS2FJ104	1/4W 100K [M]
R921, 922	ERDS2FJ123	1/4W 12K [M]
R923, 924	ERDS2FJ154	1/4W 150K [M]
R925, 926	ERDS2FJ223	1/4W 22K [M]
R927, 928	ERDS2FJ102	1/4W 1K [M]
R929, 930	ERDS2FJ121	1/4W 120 [M]
R931-936	ERG1SJ681	1W 680 [M]
R947, 948	ERDS2FJ103	1/4W 10K [M]
R949, 950	ERDS2FJ223	1/4W 22K [M]
		CAPACITORS
C401, 402	ECA1HPXS4R7B	50V 4.7U [M]
C403, 404	ECKD1H471KB	50V 470 [M]
C405, 406	ECA1EPXS470B	25V 47U [M]
C407, 408	ECBT1H820KB5	50V 82P [M]
C409, 410	ECCR2H220J5	500V 22P [M]
C413, 414	ECCV2H070D	500V 7P [M]
C415, 416	ECBT1H102KB5	50V 1000P [M]
C426	ECQB1H102JF3	50V 1000P [M]
C427	ECQV1H223JZ3	50V 0.022U [M]
C428	ECHR1H103JZ3	50V 0.01U [M]
C451, 452	ECKR1H333ZF5	50V 0.033U [M]
C453-456	ECCV2H680K	500V 68P [M]
C457-460	RCE1HKA3R3BG	50V 3.3 [M]
C461, 462	ECBT1H102KB5	50V 1000P [M]
C463-465	ECBT1H104ZF5	50V 0.1U [M]
C491, 492	ECKT1H101KB	50V 100P [M]
C493, 494	ECBT1H101KB5	50V 100P [M]
C501-504	ECA0JPXS101B	6.3V 100U [M]
C505, 506	ECQV1H473JM3	50V 0.047U [M]
C507	ECA1EM101B	25V 100U [M]
C508	ECA1HM470B	50V 47U [M]
C509	ECEA1HN100SB	50V 10U [M]
C511, 512	ECBT1H560J5	50V 56P [M]
C513-518	ECQV1H473JM3	50V 0.047U [M]
C519-522	ECQB1H223JF3	50V 0.022U [M]
C523, 524	ECBT1H102KB5	50V 1000P [M]
C525, 526	ECBT1C272KB5	16V 2700P [M]
C527, 528	ECBT1H181KB5	50V 180P [M]
C533	ECBT1C103NS5	16V 0.01U [M]
C601	ECEA1HKA2R2B	50V 2.2U [M]
C602	ECBT1E223ZF	25V 0.022U [M]
C603	ECEA0JKA221B	6.3V 220U [M]
C604	RCE1CKA100BG	16V 10U [M]
C611	ECEA0JKA221B	6.3V 220U [M]
C701, 702⚠	ECETX1J223XM	63V 22000U [M]
C707, 708	ECA1JPXH560E	63V 56U [M]
C709, 710	ECQE2334KFW	V 0.33U [M]

Ref. No.	Part No.	Values & Remarks
C711	ECQE2104KF3	250V 0.1U [M]
C712	ECBT1C103NS5	16V 0.01U [M]
C713	ECKR1H103ZF5	50V 0.01U [M]
C714⚠	ECA1EM102E	25V 1000U [M]
C716	ECBT1C103NS5	16V 0.01U [M]
C721	ECEA1EKA100B	25V 10U [M]
C722	RCE1CKA100BG	16V 10U [M]
C723	ECA0JM222B	6.3V 2200U [M]
C751⚠	ECKWNS102MBM	16V 1000P [M]
C762	ECEA1EKA100B	25V 10U [M]
C763	RCE1CKA100BG	16V 10U [M]
C764	ECA0JM222B	6.3V 2200U [M]
C773, 774	ECA1HBX3R3B	50V 3.3U [M]
C775	ECA1HPXS470B	50V 47U [M]
C776	ECA1EPXS470B	25V 47U [M]
C777	ECA1JPX470TB	63V 47U [M]
C778	ECA1EPX470TB	25V 47U [M]
C779, 780	ECA2APXS100B	100V 10U [M]
C781	ECBT1H102KB5	50V 1000P [M]
C782, 783	ECEA1EKA100B	25V 10U [M]
C804	ECBT1H104ZF5	50V 0.1U [M]
C805	RCE1CKA100BG	16V 10U [M]
C807	RCE1CKA100BG	16V 10U [M]
C808-810	ECBT1H104ZF5	50V 0.1U [M]
C821⚠	ECEA1EKA100B	25V 10U [M]
C901, 902	ECEA1EKN3R3B	25V 3.3U [M]
C903, 904	ECEA1HKA2R2B	50V 2.2U [M]
C905	RCE1HKA4R7BG	50V 4.7U [M]
C910	RCE1HKA4R7BG	50V 4.7U [M]
C955, 956	ECBT1C152JR5	16V 1500P [M]

■ Cabinet Parts Location



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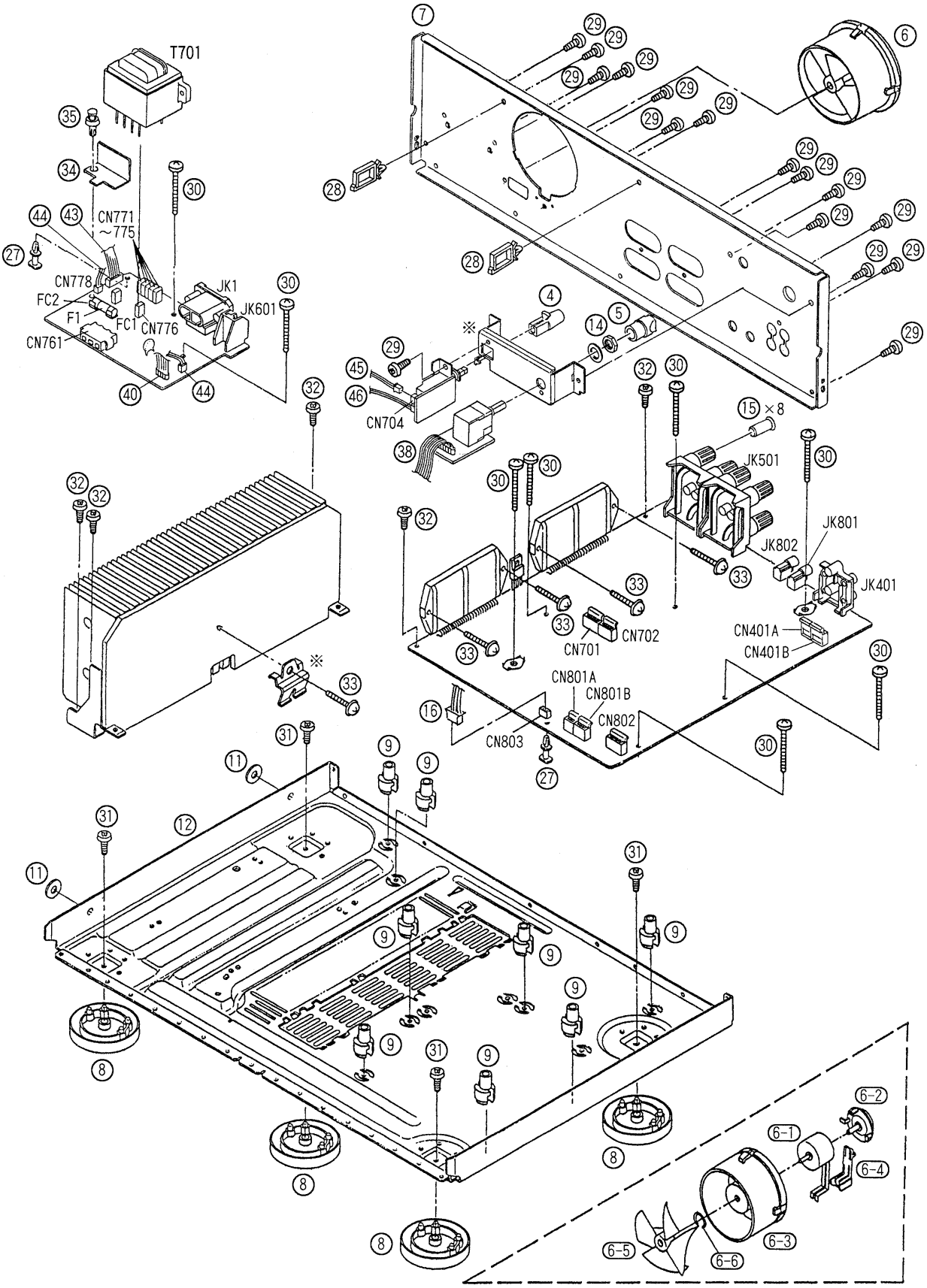
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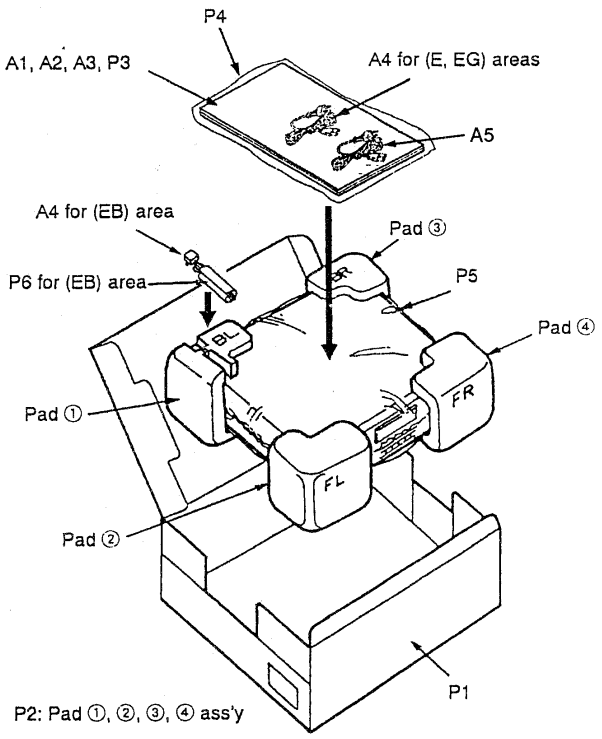
■ Replacement Parts List (Cabinet, Accessories and Packing)

Ref. No.	Part No.	Part Name & Description	Remarks
		CABINET PARTS	
1	RKM0219F-K	TOP CABINET	[M]
2	SNE2129-1	SCREW	[M]
3	XTBS3+8JFZ1	SCREW	[M]
4	RGUD609-K	BUTTON, LIGHT	[M]
5	RGW0048	BUTTON, VOLUME	[M]
6	REM0020-1	FAN ASS'Y	[M]
6-1	MDN-4RB4MRC	FAN MOTOR COVER	[M]
6-2	RMQ0208-K	FAN MOTOR	[M]
6-3	RMQ0209-K	FAN CASE	[M]
6-4	RMQ0212-K	FAN TERMINAL	[M]
6-5	SHE232-1	FAN	[M]
6-6	SUS271	SPRING	[M]
7	RGR0227K-AA	REAR PANEL	[M] (E/EG)
7	RGR0227K-BA	REAR PANEL	[M] (EB)
8	RKA0053-A	FOOT	[M]
9	RKQ0089-2	P. C. B. SUPPORT	[M]
11	RMG0332-K	RUBBER	[M]
12	RMK0200-3	CHASSIS	[M]
13	RMN0217	HOLDER	[M]
14	RHN90001	NUT	[M]
15	RMR1110-K	COVER	[M]
16	REX0741	CABLE ASS'Y(3P)	[M]
18	RGL0301-Q	PANEL LIGHT A	[M]
19	RGL0302-Q	PANEL LIGHT B	[M]
20	RGU0890-K	BUTTON, POWER	[M]
21	RGU1271-K	BUTTON, SPEAKER	[M]
22	RHD26017	SCREW	[M]
23	RHD26018	SCREW	[M]
24	RMA0869	ANGLE	[M]
25	RSE0006-1	METER ASS'Y	[M]
26	XTBS26+8J	SCREW	[M]
27	SHR8006	SPACER	[M]
28	SHR9814	SPACER	[M]
29	XTBS3+8JFZ1	SCREW	[M]
30	XTB3+20JFZ	SCREW	[M]
31	XTB3+6G	SCREW	[M]
32	XTB3+8JFZ	SCREW	[M]
33	XTW3+15T	SCREW	[M]
34	RMZ0354	COVER	[M]
35	SHR9112	NYLON RIVET	[M]
36	RMR1096-K	BUTTON, SLEEP	[M]
37	RFKGEA1000ME	FRONT PANEL ASS'Y	[M]
38	REZ1006	FLAT CABLE(7P) (W401)	[M]
39	RWJ3906440QQ	FLAT CABLE(6P) (W701)	[M]
40	RWJ1805480QQ	FLAT CABLE(5P) (W702)	[M]
41	RWJ1807220KX	FLAT CABLE(7P) (W801)	[M]
42	RWJ1806090KX	FLAT CABLE(6P) (W802)	[M]
43	RFKEEA1000EA	FLAT CABLE(5P) (W708)	[M]
44	RFKEEA1000EB	FLAT CABLE(2P) (W709)	[M]
45	RFKEEA1000EC	FLAT CABLE(2P) (W704)	[M]
46	RFKEEA1000ED	FLAT CABLE(2P) (W705)	[M]

Ref. No.	Part No.	Part Name & Description	Remarks
		PACKING MATERIALS	
P1	RPG3548	PACKING CASE	[M] (E)
P1	RPG3549	PACKING CASE	[M] (EB/EG)
P2	RPN0752	PAD	[M]
P3	RPQ0164	PAD	[M]
P4	RPF0139	SHEET	[M]
P5	SPP730	SHEET	[M]
P6	RPH0032	MIRROR SHEET	[M] (EB)
		ACCESSORIES	
A1	RQA0117	WARRANTY CARD	[M]
A2	RQCB0169	SERVICE CENTER LIST	[M]
A3<IA>	RQT4026-E	INSTRUCTION MANUAL	[M] (E)
A3<IB>	RQT4029-R	INSTRUCTION MANUAL	[M] (E)
A3<IC>	RQT4025-B	INSTRUCTION MANUAL	[M] (EB)
A3<ID>	RQT4027-D	INSTRUCTION MANUAL	[M] (EG)
A3<IE>	RQT4028-H	INSTRUCTION MANUAL	[M] (EG)
A4	RJA0019-2K	AC POWER SUPPLY CORD	[M] (E/EG)
A4	RJA0049-K	AC POWER SUPPLY CORD	[M] (EB)
A5	SJP2257T	CORD	[M]

NOTE: The "<IA>, <IB>, <IC>, <ID>, <IE>"marks in Remarks indicate language of instruction manual.
<IA>: English, Spanish, Swedish
<IB>: Russian, Polish, Czeco
<IC>: English
<ID>: German, Italian, French
<IE>: Dutch, Denish

■ Packaging



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